

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

**JOHN A. MCMORRIS, III ET AL.**

Serial No. **10/720,797**

Filing Date: **11/24/03**

For: **SYSTEM AND METHOD OF CREATING,  
AGGREGATING, AND TRANSFERRING  
ENVIRONMENTAL EMISSION  
REDUCTIONS**

Examiner: **Heidi M. Riviere**

Group Art Unit: **2632**

Attorney Docket No. **31234**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**DECLARATION OF GEORGE D. BOLTON**  
**UNDER 37 CFR § 1.132**

I, George D. Bolton, do hereby declare and say as follows:

1. I am a resident of Florida residing at 116 Signature Dr., Melbourne Beach, Florida, 32951. I am a named co-inventor in the above referenced application and have had extensive involvement with the Climate Change Industry since 2001, holding various executive (corporate) roles since early 2002.

2. Industry career highlights include:

Seasoned speaker on project development and industry challenges/solutions (partial list of speaking engagements attached);

I worked closely with the governments of Brazil and Mexico to develop programs which allowed the installation of over 800 biodigesters for the reduction of greenhouse gas (GHG) in these countries.

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3. I have held the following positions:

**AgCert International plc Melbourne, FL. 2002 to present**

**Vice President, Special Projects**

9/2005 – present

**Vice President, Aggregation**

2002 – 9/2005

I am a cofounder of this global, market-leading Climate Change firm.

I played a key role in the development and implementation of a unique, systematic process for mitigating GHG emissions for use as emission reductions/offsets ("carbon credits"), in both regulated and unregulated global markets. I have established legal entities, projects and approved methodologies in both developing and Annex I countries pursuant to Kyoto Protocol, and in N. America. During my tenure, AgCert has developed into one of world's two largest GHG project developers. I have managed company's interactions with the producers who cooperate with AgCert in the numerous projects constructed for GHG mitigation. I have testified in Canada's Parliament (sub-committees) and worked with Capital Hill staffers to guide nascent US climate change policy. I was a key player in the development of AgCert's pending Intellectual Property; negotiated US Government Cooperative Research & Development Agreements (CRADAs) with USDA and DOE. I worked with CEO and outside legal/investor team over 7-month period, took Company public on the London Stock Exchange (LSE) - one of the few US start-up companies to become full LSE listed.

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4. A partial list of speaking engagements includes being an invited speaker to a wide variety of global climate change conferences and governmental meetings worldwide. Highlights include:

Numerous GHG conferences in Canada, Brazil and Mexico 2003-2007

Canada's Parliamentary sub-committee (various) 2004, 2006

Consortium for Agricultural Soils Mitigation of Greenhouse

Gases (CASMGs) (various US & Canada locations) 2004-2007

Midwest Governors Conference 2006

Pennsylvania EPA Conference 2007

Florida Waste to Fuels Conference 2008

5. I have made senior level presentations to several sovereign government departments and ministries:

Canada:

Department of Foreign Affairs & International Trade (DFAIT)

Agriculture and Agri-Food Canada

Parliament

USA

USDA

US EPA

US DOE

State Department Mexico

Ministry of Agriculture

Ministry of Environment

Ministry of Foreign Affairs

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Brazil

Ministry of Foreign Affairs

Ministry of Agriculture

Ministry of Environment

Chile

Ministry of Environment

6. I have read the Office Action of January 9, 2008 for the above referenced application and the patent references cited by the Examiner including US Patent Application Publications US 2002/0173980 A1 for Daggett et al. and US 2005/0246190 A1 for Sandor et al. Patent application publication US 2003/0101070 A1 for Mahosky et al. has also been reviewed.

7. Exhibit A including a table referencing the Examiner's comments for each claim and my response has been prepared and is submitted with my Declaration and is referenced in the Remarks Section of the Response to Office Action.

8. I have closely reviewed the disclosure of Provisional Patent Application S/N 60/397,401 to Richard Sandor (Exhibit B) having filing date 07/20/02 (signature date 07/19/02) with the understanding that the Sandor reference cited by the Examiner is only a prior art reference for the Applicants' claimed invention based on the teachings in this Provisional Patent Application S/N 60/397,401.

Generally with regard to Sandor, the Sandor reference cited by the Examiner is a Continuation-In-Part application filed on January 14, 2005 claiming priority to an

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earlier filed applications (S/N 60/397,401 f/d 7/20/2002). This earlier filed application is directed to a trading platform and an integrated registry for storing information about individual member's emissions, emission reductions, and overall compliance. Later, in applications filed after Applicants' priority dates of 11/26/2002 (S/N 60/429,267) and 1/13/2003 (S/N 60/440,069), Sandor revisions develop additional information on eligible project types and the inclusion of their associated emission reduction units into a Registry, thus giving members additional flexibility for meeting their compliance obligations.

Exhibit A addresses the S/N 60/397,401 disclosure with regard to the claimed invention and the clear distinction from Sandor.

9. A cross reference table is presented in Exhibit C identifying locations within Applicants' priority documents where support for the claims may be found. Exhibit D is an annotated copy of Provisional Patent Application S/N 60/429,267 having filing date 11/26/02 to which reference is made in Exhibit C. Exhibit E includes disclosure added to application S/N 60/429,267 and filed in Provisional Patent Application S/N 60/440,069 (pages 23-52) having filing date 01/13/03. Full support for Claims 1-102 is found in these earlier filed priority documents which clearly predate the Sandor reference cited by the Examiner.

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10. I hereby declare that all statements made herein of my own accord are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that any such willful false statements may jeopardize the validity of the application or any patent issued thereon.

04/07/08  
Date

  
\_\_\_\_\_  
GEORGE D. BOLTON

## EXHIBIT A

# EXHIBIT A

Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
8	<b>With respect to claim 1: Daggett teaches:</b>	
8, bullet #1	comparing a production practice of the producer to pre-selected qualification criteria; (paragraph 35 – insurance provider compares for example “all corn planted or specified soil type within a specified country or counties”)	In paragraph 35 Daggett teaches insurance provider compares for example “all corn planted or specified soil type within a specified country or counties”, this addresses risk evaluation for an insurance policy based on past performance while McMorris (Applicants) teaches comparing a production practice of the producer to pre-selected qualification criteria, which is dependent on the selection of a qualification criteria before a crop is planed not against all corn planted with no regard to any preselected criteria.
8, bullet #2	contracting with the producer regarding implementation of the production practice; (Fig.5; paragraphs 34-35 and 64 – insurance provider insures farmer if certain requirements are met)	Daggett teaches in Figure 5; paragraphs 34-35 and 64 insurance provider insures farmer if certain requirements are met. While paragraph 34 teaches the preferred GIS fields at a minimum will track the soil type of each management zone, the types of crops planted on the management zone, and the known yield history of the management zone. Additional agronomic information may be included in the fields. Paragraph 35 teaches the vastly expanded information provided to insurance providers through this process will permit the insurance providers to more accurately categorize the risk level associated with a given insurance policy and Paragraph 64 states a standardized accumulator support agreement should be used by the agents to form a contract between the insurance provider and the producer. None of these provide for the contracting with the producer regarding the implementation of a production practice but rather gather general agronomic data for insurance risk management and the ability to sign up acres for the participation in CARBON CREDIT creation. There is not contract to implement any production practice only to gather information.
8, bullet #3	collecting production data regarding the producer responsive to the protocol; (paragraphs 32 and 34 – farmer or insurance agent working with farmer can use interactive computer to input what crops are intended to be planted within the management zone;	In paragraphs 32 and 34 Daggett teaches a farmer or insurance agent working with farmer can use interactive computer to input what crops are intended to be planted within the management zone; pH levels are sampled



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	pH levels are sampled as well as timing and amount of fertilizer applied within each management zone)	<p>as well as timing and amount of fertilizer applied within each management zone, but this does not make any provisions to ensure the collecting production data regarding the producer responsive to the protocol will take place as McMorris teaches, not just to input what crops are intended to be planted within the management zone as Daggett teaches which makes no attempt to be responsive to any protocol.</p> <p>In paragraph 34 Daggett teaches the preferred GIS fields at a minimum will track the soil type of each management zone, the types of crops planted on the management zone, and the known yield history of the management zone. Additional agronomic information may be included in the fields. This information is not responsive to collecting production data regarding the producer responsive to the protocol but rather is used to gather information to categorize insurance risk not calculate carbon emissions responsive to a protocol.</p>
8, bullet #4	warranting the production practice data by the producer; (paragraph 40-GPS system creation of accurate boundaries is "beneficial to the farmer because it prevents the farmer from over-insuring by paying for more acres than are actually planted, and it prevents the farmer from being under insured in case of crop failure if he actually plants on more acres than he insures)	<p>In paragraph 40 Daggett teaches GPS system creation of accurate boundaries is "beneficial to the farmer because it prevents the farmer from over-insuring by paying for more acres than are actually planted, and it prevents the farmer from being under insured in case of crop failure if he actually plants on more acres than he insures While this provides incentives to the farmers to provide the information relative to what is planted on the various management zones, none of these incentives warrant a selected protocol as any production practice may be recorded or not recorded as the producer determines what will provide him the greatest incentive. McMorris teaches warranting (providing assurance the production practice was followed) the production practice data responsive to the selected protocol. This insures the producer must follow a specific preselected protocol not just reporting the data which will provide.</p>

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<b>Office Action Paragraph / Bullet#</b>	<b>Office Action Comments</b>	<b>Applicants Response</b>
8, bullet #5	confirming the received production practice data meets a preselected data standard; (paragraphs 32 and 34 – farmer or insurance agent working with farmer can use interactive computer to input what crops are intended to be planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone)	<p>In paragraph 32 Daggett teaches the farmer or insurance agent working with farmer can use an interactive computer to input what crops are intended to be planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone, or what, if any, insured crops he intends to plant with in that management zone. This does not make any provisions to ensure these crops will actually be planted as McMorris teaches by confirming the received production practice data meets a preselected data standard, rather than just the recording of any practice which may take place in a management zone as Daggett teaches.</p> <p>In paragraph 34 Daggett teaches the preferred GIS fields at a minimum will track the soil type of each management zone, the types of crops planted on the management zone, and the know yield history of the management zone. Additional agronomic information may be included in the fields. This information is not responsive to confirming the received production practice data meets a preselected data standard as McMorris teaches which would allow the calculation of carbon emissions responsive to a protocol.</p>
8, bullet #6	taking title to the effective environmental data by other than the producer; (paragraphs 49 and 60 – data verifying carbon credit is verified; credits are sold to individuals or companies)	<p>In paragraph 49 Daggett teaches companies and consumers will buy carbon credits, but it does not discuss taking title to effective (responsive to a protocol) environmental data by other than the producer, but not taking title to the effective environmental data by other than the producer as McMorris does which is a precursor to the production of carbon credits. Carbon credits may be bought and sold with out taking title to the effective environmental data, but effective environmental data must be collected to allow the creation of emission reductions.</p> <p>In paragraph 60 Daggett teaches some way must be found to verify carbon credits for any given parcel of land have only been sold once and identifies a series of actions utilizing GPS coordinates to try to accomplish this, but does not set out a defined protocol to follow or a means to select such protocol. In any event there is no mention of taking title to the effective environmental data by other than</p>

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Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
		the producer in any of the suggested practices as McMorris teaches.
	Daggett does not teach selecting a producer of at least one of environmental emissions and environmental emissions removal; selecting a protocol sufficient for comparing the production practice to a baseline practice; converting the production practice data to environmental data using pre-selected conversion factors; modifying the environmental data to effective environmental data; crediting the producer for at least a portion of the effective environmental data; and registering the effective environmental data for commercial use thereof.	
8, bullet #7	However, Sandor teaches  selecting a producer of at least one of environmental emissions and environmental emissions removal; (paragraphs 86-89 – members engaged in electric power products; members can include forest products, chemicals, cement, manufacturing, and municipal sectors)	Paragraphs 86-89 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1 <sup>st</sup> provisional filing.  86-89 Appears for 1st time in Sandor 1/15/04, paragraphs 73-76.
8, bullet #8	selecting protocol sufficient for comparing the production practice to a baseline practice; (page 5, paragraphs 67-68 and 71 – each member of the market is managed by a system with an emission baseline; “[e]missions baseline preferably reflects a detailed assessment of patterns of industrial activity and practical considerations...reference emission level is preferably established to be able to obtain emissions data, reflect variations in economic cycles” adjustments can be made to baseline)	Paragraphs 67-68 and 71 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1 <sup>st</sup> provisional filing.  Appears for 1st time in Sandor 1/15/04, paragraphs 54, 55, and 58.
8, bullet #9	converting the production practice data to environmental data using pre-selected conversion factors; (page 2, paragraph 21; page 3, paragraphs 28 and 31 – “a factor for converting the activity data to one of the GHG emission or GHG emission reduction equivalents” is applied. “The factor is based on the type of energy activity and the selected activity unit.”)	Paragraphs 21, 28 and 31 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1 <sup>st</sup> provisional filing.  Appears for 1st time in Sandor 1/15/04, paragraph 21 and in Sandor 11/03/05 paragraphs 28 and 31.

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<b>Office Action Paragraph / Bullet#</b>	<b>Office Action Comments</b>	<b>Applicants Response</b>
8, bullet #10	Modifying the environmental data to effective environmental data; (page 5, paragraphs 67-68 and 71 – each member of the market is managed by a system with an emission baseline; “[e]missions baseline preferably reflects a detailed assessment of patterns of industrial activity and practical considerations...reference emission level is preferably established to be able to obtain emissions data, reflect variations in economic cycles; adjustments can be made to baseline)	<p>Paragraphs 67-68 and 71 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1<sup>st</sup> provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraphs 54, 55, and 58.</p>
8, bullet #11	Crediting the producer for at least a portion of the effective environmental data; (page8, paragraph 99 – entities that reduce CO <sub>2</sub> generating activities are credited)	<p>Paragraph 99 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1<sup>st</sup> provisional filing.</p> <p>Appears for 1st time in Sandor 11/03/05 paragraph 99.</p>
8, bullet #12	Registering the effective environmental data for commercial use thereof. (page 4, paragraphs 53 and 54 – registry serves as official record of emission allowance)	<p>Paragraphs 53 and 54 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1<sup>st</sup> provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraphs 40 and 41.</p>

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9	<p><b>With respect to claim 2:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach converting the effective environmental data to an emission reduction unit for a transferring thereof. However, Sandor teaches converting the effective environmental data to an emission reduction unit for a transferring thereof. (page 2, paragraph 21; page 3, paragraphs 28 and 31 – “a factor for converting the activity data to one of the GHG emission or GHG emission reduction equivalents” is applied. “The factor is based on the type of energy activity and the selected activity unit.”)</p> <p>Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with converting effective environmental data to an emission reduction unit for transferring because of the need to have “a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases.” (Sandor: paragraph 11)</p>	<p>Paragraph 21, 28, and 31 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1<sup>st</sup> provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 21 and in Sandor 11/03/05 paragraph 28 and 31.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1<sup>st</sup> provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>
9, bullet #1	<p><b>With respect to claim 3:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach the producer is selected from a producer group including at least one of agriculture, forestry, enhanced oil recovery, fuel production, semiconductor manufacturing, metal production, coal production, deep geologic sequestration, waste management, and waste landfills. However, Sandor teaches the producer is selected from a producer group including at least one of agriculture, forestry, enhanced oil recovery, fuel production, semiconductor manufacturing, metal production, coal production, deep geologic sequestration, waste management, and waste landfills. (page 9, paragraphs 107 and 113 – methane source can be a landfill or agricultural waste)</p> <p>Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with a producer group because of the need to have “a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases”. (Sandor; paragraph 11)</p>	<p>Paragraphs 107 and 113 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1<sup>st</sup> provisional filing.</p> <p>Paragraph 107 appears for 1st time in Sandor 1/15/04, paragraph 87 and in Sandor 11/03/05 paragraph 107.</p> <p>Paragraph 113 appears for 1st time in Sandor 1/15/04, paragraph 93.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1<sup>st</sup> provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>

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Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
10	<p><b>With respect to claim 4:</b> Daggett teaches the limitation in the rejections above. Daggett does not teach the producer includes a plurality of producers from a plurality of governing jurisdictions. However, Sandor teaches the producer includes a plurality of producers from a plurality of governing jurisdictions. (page 7, paragraph 92 – facilities can be from various countries; page 9, paragraphs 107 and 113 – methane source can be a landfill or agricultural waste; projects noted are from US, North America and Brazil)</p> <p>Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with governing jurisdictions because of the need to have “a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases”. (Sandor; paragraph 11)</p>	<p>Paragraphs 92, 107 and 113 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1<sup>st</sup> provisional filing.</p> <p>Paragraph 92 appears for 1st time in Sandor 1/15/04, paragraph 80.</p> <p>Paragraph 107 appears for 1st time in Sandor 1/15/04, paragraph 87 and in Sandor 11/03/05 paragraph 107.</p> <p>Paragraph 113 appears for 1st time in Sandor 1/15/04, paragraph 93.</p> <p>Paragraph 11 Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>

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Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
11	<p><b>With respect to claim 5:</b> Daggett teaches a pre-assessing of operations data representative of the producer including at least one of collecting production, size and infrastructure data. (paragraphs 8, 9 and 27 - insurance application requires information on how many acres farmer would like insured)</p>	<p>In Paragraph 8 Daggett teaches a potential CARBON CREDIT system, a person or entity is awarded carbon credits to recognize actions taken that reduce the overall emission of specified greenhouse gases such as carbon dioxide and that the carbon credits may be bought and sold in an open market. It does not teach as McMorris does a specific method of pre-assessing of operations data representative of the producer including at least one of collecting production, size and infrastructure data which provides the data necessary for the creation of a carbon credit to be available for trading, but only that a market for CARBON CREDIT is currently being established and the markets can be created by regulatory or through voluntary efforts.</p> <p>In Paragraph 9 Daggett teaches by allowing carbon credits to be bought and sold, an incentive to reduce overall emissions is created. It does not teach as McMorris does a specific method of pre-assessing of operations data representative of the producer including at least one of collecting production, size and infrastructure data to allow the creation of emission reductions.</p> <p>Paragraph 27 teaches companies that provide MPCl in the United States are able to make allocations of what percentage of risk they will retain on policies on a policy-by-policy basis from estimates of future activities and does not teach as McMorris does pre-assessing of operations data representative of the producer including at least one of collecting production, size and infrastructure data which has already taken place and is responsive to a preselected protocol.</p>

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Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
12	<p><b>With respect to claim 6:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach the protocol includes at least one of guidance on measurement methodologies, indirect measurement criteria, modeling, baseline definitions and measurements, IPCC Global Warming Potential (GWP) conversion factors to enable the equivalent comparison of GHG carbon dioxide equivalents (CO<sub>2</sub>e), and individual greenhouse gas performance factors.</p> <p>However, Sandor teaches the protocol includes at least one of guidance on measurement methodologies, indirect measurement criteria, modeling, baseline definitions and measurements, IPCC Global Warming Potential (GWP) conversion factors to enable the equivalent comparison of GHG carbon dioxide equivalents (CO<sub>2</sub>e), and individual greenhouse gas performance factors. (page 5, paragraphs 67-68 and 71 - each member of the market is managed by a system with an emission baseline; "[e]missions baseline preferably reflects a detailed assessment of patterns of industrial activity and practical considerations ...reference emission level is preferably established to be able to obtain emissions data, reflect variations in economic cycles"; adjustments can be made to baseline)</p> <p>Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with a protocol because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11)</p>	<p>Paragraphs 67-68 and 71 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 54, 55, and 58</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1<sup>st</sup> provisional filing.</p> <p>Paragraph 11 Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>



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Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
13	<p><b>With respect to claim 7:</b> Daggett teaches the protocol includes at least one of guidance relating to environmental reductions, a government certified or approved protocol, and determines emission reduction units. (paragraphs 47-48 - USDA's Natural Resource Conservation Service (NRCS) and several environmental engineering firms are developing carbon credit protocols for no-tillage practices, cropland retirement and others)</p>	<p>In paragraphs 47-48 Daggett teaches USDA's Natural Resource Conservation Service (NRCS) and several environmental engineering firms are developing carbon credit protocols for no-tillage practices, cropland retirement and others, but these teachings may or may not be developed and do not provide as McMorris does specifics for providing guidance for the use of a protocol which includes at least one of guidance relating to environmental reductions, a government certified or approved protocol, and determines emission reduction units.</p>
14	<p><b>With respect to claim 8:</b> Daggett teaches adhering the production practice to the protocol provides a measure of at least one of cleaner air, cleaner water, reduced erosion, electrical power generation, and enhanced land use. (paragraphs 32 and 34 - farmer or insurance agent working with farmer can use interactive computer to input what crops are intended to be planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone)</p>	<p>In paragraph 32 Daggett teaches farmer or insurance agent working with farmer can use interactive computer to input what crops are <b>intended</b> to be planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone, but recording what a producer <b>intends</b> to do without adhering to any set production practice or protocol does not as McMorris teaches adhering the production practice to the protocol provides a measure of at least one of cleaner air, cleaner water, reduced erosion, electrical power generation, and enhanced land use confirming what actually happened.</p> <p>In paragraph 34 Daggett does not teach adhering the production practice of a protocol to provide a measure of at least one of cleaner air, cleaner water, reduced erosion, electrical power generation, and enhanced land use, but rather records what has already happened no matter if it is responsive to a pre selected protocol standard. It also records the agronomic details of a management unit with out being responsive to a pre selected protocol as McMorris teaches. Daggett teaches what the producer <b>intends</b> to do not what he is <b>required</b> to do as McMorris teaches.</p>

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Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
15	<b>With respect to claim 9:</b> Daggett teaches the protocol selecting includes selecting a plurality of protocols appropriate for the producer operations. (paragraphs 47-48 - USDA's Natural Resource Conservation Service (NRCS) and several environmental engineering firms are developing carbon credit protocols for no-tillage practices, cropland retirement and others)	In paragraphs 47-48 Daggett teaches USDA's Natural Resource Conservation Service (NRCS) and several environmental engineering firms are developing carbon credit protocols for no-tillage practices, cropland retirement and others which may create carbon credits but these teachings do not allow a producer to select a protocol from a plurality of protocols appropriate for the producer operations as McMorris teaches but only suggest such protocols may be developed.
16	<b>With respect to claim 10:</b> Daggett teaches the production practice data collecting includes collecting available external information source data regarding the producer, and wherein the external information source data includes at least one of site physical data, cropping maps, soil maps, watershed maps, topographical maps, geographical reference data, site permit data, regulatory compliance, overhead photography, infrastructure placement, dimensional data, and commercial performance practices. (paragraphs 26 and 32 - components of the invention creates a map that divides a parcel of land, or field, into management zones)	In paragraphs 26 and 32 Daggett teaches the components of the invention might be generally described as: creating a map that divides a parcel of land, or field, into management zones. These zones are relevant to what the farmer <u>intends</u> to do but are not responsive to a preselected protocol as McMorris teaches through the use of production practice data collecting to show <u>exactly</u> what the producer did in relation to production practices relevant to a specific protocol appropriate for the producers operations which are selected prior to the practice change. Daggett teaches on the collecting of general agronomic information which is not responsive to any preselected protocol.
17	<b>With respect to claim 11:</b> Daggett teaches the warranting includes at least one of releasing legal liability for the data collecting, releasing biological security liability, and confirming the accuracy of the data collecting with respect to known production practices. (paragraph 40 - GPS system creation of accurate boundaries is "beneficial to the farmer because it prevents the farmer from over-insuring by paying for more acres than are actually planted, and it prevents the farmer from being under insured in case of crop failure if he actually plants on more acres than he insures)	In paragraph 40 Daggett teaches the use of a GPS system to maximize the profitability of management zones and makes no mention of warranting data. McMorris teaches a method to warranty the collected data which includes at least one of releasing legal liability for the data collecting, releasing biological security liability, and confirming the accuracy of the data collecting with respect to known production practices which insures the collected data is correct and can be utilized with the pre-selected protocol as a component in the creation of a viable carbon emission reduction. Daggett teaches the incentives to provide the information relative to what is planted on the various management zones are numerous, not how they can be used to confirm the accuracy of the data collecting with respect to know production practices as McMorris teaches.

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18	<b>With respect to claim 12:</b> Daggett teaches the production practice data collecting includes collecting on-site data regarding the producer. (paragraphs 32 and 34 - farmer or insurance agent working with farmer can use interactive computer to input was crops are intended to by planted within the management zone; pH levels are' sampled as well as timing and amount of fertilizer applied within each management zone)	In paragraph 32 and 34 Daggett teaches farmer or insurance agent working with farmer can use interactive computer to input what crops are <b>intended</b> to be planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone, but recording what a producer <b>intends</b> to do does not allow the confirmation the data is actually real or has taken place. McMorris teaches the production practice data collecting includes collecting on-site data regarding the producer to be sure the data is real and the production practices have actually taken place.
19	<b>With respect to claims 13 and 86:</b> Daggett teaches the on-site data collecting includes at least one of collecting on-site data supplied by the producer, forming an assessment team for the on-site collecting, forming an assessment team for confirming the on-site data collecting, entering the onsite data into a pre-selected template, and electronically transmitting the production practice data to a data center. (paragraphs 32 and 34 - farmer or insurance agent working with farmer can use interactive computer to input was crops are intended to by planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone)	In paragraph 32 and 34 Daggett teaches farmer or insurance agent working with farmer can use interactive computer to input what crops are <b>intended</b> to be planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone, but data collecting of what a producer <b>intends</b> to do without showing the on-site data collecting includes at least one of collecting on-site data supplied by the producer, forming an assessment team for the on-site collecting, forming an assessment team for confirming the on-site data collecting, entering the onsite data into a pre-selected template, and electronically transmitting the production practice data to a data center of a preselected production protocol as McMorris teaches.
20	<b>With respect to claims 14 and 87:</b> Daggett teaches the template provides for input including at least one of questions relevant to the protocol, a commercial standard, environmental compliance, non-conformance, and business needs. (Figure 5 - application includes the request to list "Protocol Used to calculate carbon credit")	In Figure 5 Daggett shows an application includes the request to list "Protocol Used" to calculate carbon credit, but this does not teach as McMorris does the template provides for input including at least one of questions relevant to the protocol, a commercial standard, environmental compliance, non-conformance, and business needs. The listing a protocol used to calculate carbon credit as Daggett teaches does not answer one of the questions relevant to the protocol.
21	<b>With respect to claims 15 and 88:</b> Daggett teaches the data entering into a template further includes recording at least one of time and	In figure 5 Daggett teaches the application includes section for landowner identifying information as well as latitude and longitude

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	geographical reference information. (Figure 5 - application includes section for landowner identifying information as well as latitude and longitude information)	information of where the farmer is located, but does not use latitude and longitude (GIS) to identify the location of individual farm management areas or fields, but rather the location of the farmer. McMorris teaches the data entering into a template further includes recording at least one of time and geographical reference information relevant to a protocol. It is important to note the location of a landowner can be far from where the collection of the onsite data for the PDD takes place.
22	<b>With respect to claims 16 and 89:</b> Daggett teaches tracking the presence of the assessment team on the site using a GPS for enabling subsequent audit trails and reconstruction of assessment progress. (paragraph 40 - GPS system creation of accurate boundaries is "beneficial to the farmer because it prevents the farmer from over-insuring by paying for more acres than are actually planted, and it prevents the farmer from being under insured in case of crop failure if he actually plants on more acres than he insures)	In paragraph 40 Daggett teaches a GPS system creation of accurate boundaries is "beneficial to the farmer because it prevents the farmer from over-insuring by paying for more acres than are actually planted, and it prevents the farmer from being under insured in case of crop failure if he actually plants on more acres than he insures." While the use of a GPS system for the creation of accurate boundaries is beneficial to the farmer because it prevents the farmer from over-insuring by paying for more acres than are actually planted, and it prevents the farmer from being under insured in case of crop failure if he actually plants on more acres than he insures, it does not as McMorris teaches allow for tracking the presence of the assessment team on the site using a GPS for enabling subsequent audit trails and reconstruction of assessment progress to the exact time and place to prove they were actually at the site of the project when the assessment was completed.
23	<b>With respect to claims 17 and 90:</b> Daggett teaches the template form a part of at least one of an electronic data instrument, and wherein the electronic data instrument provides for data entry and transmission thereof. (Fig. 5; paragraphs 32 and 34 - farmer or insurance agent working with farmer can use interactive computer to input what crops are intended to be planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone)	In Daggett figure 5 no mention is made of the use of an electronic data instrument.  In paragraph 32 and 34 Daggett teaches a farmer or insurance agent working with farmer can use interactive computer to input what crops are intended to be planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone. The utilization of an interactive computer to select an intended management zone and recording what a producer intends to do with out reference to any preselected data standard as required by a PDD does not

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		<p>teach as McMorris does the template form a part of at least one of an electronic data instrument, and wherein the electronic data instrument provides for data entry and transmission thereof. It allows for the electronic entry of data but the data is not relevant to a preselected protocol, but rather only to what a farmer intends to plant on a field. While a farmer or insurance agent working with farmer can use interactive computer to input what crops are intended to be planted within the management zone as Daggett teaches allows the farmer to more accurately estimate his planting intentions it does not allow for collection of data which would be relevant to a specific protocol or what actually will be planted on the fields as Mc Morris does.</p>
24	<p><b>With respect to claims 18 and 91:</b> Daggett teaches modifying the template responsive to the onsite data collecting. (paragraphs 32 and 34 - farmer or insurance agent working with farmer can use interactive computer to input what crops are intended to be planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone)</p>	<p>In paragraph 32 Daggett teaches a farmer or insurance agent working with farmer can use interactive computer to input what crops are intended to be planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone, but this does not teach as McMorris does modifying the template responsive to the onsite data collecting which requires providing data for what actually happened not what is planned to happen. As Daggett teaches the data collection could take place at any location and is not required to be specific to any onsite data collection but rather is what is planned to be used on the management zone not what actually took place in the management zone.,</p>

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25	<p><b>With respect to claims 20 and 64:</b> Daggett teaches the production practice data collecting includes collecting commercial performance practice data including at least one of production throughput, production capacity, and animal welfare practices. (paragraphs 8, 9 and 27 - insurance application requires information on how many acres farmer would like insured)</p>	<p>In Paragraph 8 Daggett teaches a potential CARBON CREDIT system, a person or entity is awarded carbon credits to recognize actions taken that reduce the overall emission of specified greenhouse gases such as carbon dioxide, and that the carbon credits may be bought and sold in an open market. It does not teach as McMorris does the production practice data collecting includes collecting commercial performance practice data including at least one of production throughput, production capacity, and animal welfare practices.</p> <p>In Paragraph 9 Daggett teaches by allowing carbon credits to be bought and sold, an incentive to reduce overall emissions is created. It does not teach as McMorris the production practice data collecting includes collecting commercial performance practice data including at least one of production throughput, production capacity, and animal welfare practices.</p> <p>In Paragraphs 8 and 9 Daggett's teachings do not relate to production practice data collecting that includes collecting commercial performance practice data including at least one of production throughput, production capacity, and animal welfare practices as McMorris teaches but rather to the workings of a potential Carbon Credit system with no definition of what the system is or what it will require.</p> <p>Paragraph 27 teaches companies that provide MPCl in the United States are able to make allocations of what percentage of risk they will retain on policies on a policy-by-policy basis from estimates of future activities, and does not teach as McMorris does the production practice data collecting includes collecting commercial performance practice data including at least one of production throughput, production capacity, and animal welfare practices.</p>

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26	<p><b>With respect to claims 21 and 65:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach transmitting the production practice data to a data center; and receiving the production practice data at the data center.</p> <p>However, Sandor teaches transmitting the production practice data to a data center; and receiving the production practice data at the data center. (page 4, paragraphs 53 and 54 - registry serves as official record of emission allowance and offset holdings of each participant; participants have Internet access to their accounts)</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with the data center of Sandor because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Paragraphs 53 and 54 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraphs 40 and 41.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>

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27	<p><b>With respect to claims 22 and 66:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach the production practice data transmitting and receiving further includes at least one of encrypting and decrypting the production practice data, securing the data, and restricting access thereto.</p> <p>However, Sandor teaches the production practice data transmitting and receiving further includes at least one of encrypting and decrypting the production practice data, securing the data, and restricting access thereto. (page 4, paragraphs 53 and 54 - registry serves as official record of emission allowance and offset holdings of each participant; participants have Internet access to their accounts; public has read only access)</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with production practice data transmitting and receiving because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Paragraphs 53 and 54 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraphs 40 and 41.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>



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28	<p><b>With respect to claim 23:</b> Daggett teaches the production practice data confirming includes measuring at least one of the integrity and completeness of the production practice data, and testing data eligibility for processing the production data. (paragraphs 32, 34 and 35 - farmer or insurance agent working with farmer can use interactive computer to input was crops are intended to be planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone; the information is provided to insurance carriers to accurately categorize the risk levels)</p>	<p>In Paragraph 32 Daggett teaches the farmer is requested to input for each management unit what, if any, insured crops he intends to plant with in that management zone.</p> <p>In Paragraph 34 Daggett teaches the preferred GIS fields at a minimum will track multiple agronomic characteristics of each management zone.</p> <p>In Paragraph 35 Daggett teaches the expanded information created will permit the insurance company to analyze risk levels based on past performance.</p> <p>In Paragraphs 32, 34, and 35 Daggett does not teach as McMorris does in claim 23 the production practice data confirming includes measuring at least one of the integrity and completeness of the production practice data, and testing data eligibility for processing the production data.</p> <p>Tracking general agronomic data of a management zone of what a farmer intends to do, as Daggett teaches, does not meet the requirement of production practice data confirming includes measuring at least one of the integrity and completeness of the production practice data, and testing data eligibility for processing the production data.</p>

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29	<p><b>With respect to claim 24:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach data eligibility testing includes at least one of testing for non-conforming practices, reviewing contract terms for the producer, reviewing pending environmental actions for the producer, comparing production practices documented through the collection of data to the baseline practice, and 3rd party auditing of the production practice data. However, Sandor teaches data eligibility testing includes at least one of testing for non-conforming practices, reviewing contract terms for the producer, reviewing pending environmental actions for the producer, comparing production practices documented through the collection of data to the baseline practice, and 3rd party auditing of the production practice data. (page 5, paragraphs 67-68 and 71 - each member of the market is managed by a system with an emission baseline; "[e]missions baseline preferably reflects a detailed assessment of patterns of industrial activity and practical considerations ... reference emission level is preferably established to be able to obtain emissions data, reflect variations in economic cycles"; adjustments can be made to baseline)</p> <p>Therefore, it would have been obvious to one of ordinary skill the art at the time of the invention to combine the teachings of Daggett with production practices via the collection of data to the baseline practice because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Paragraphs 67-68 and 71 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 54-55 and 58.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>

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30	<p><b>With respect to claims 25 and 67:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach the production practice data reporting includes at least one of comparing the production practice data to standards of performance and identifying production practice compliance through labeling. However, Sandor teaches the production practice data reporting includes at least one of comparing the production practice data to standards of performance and identifying production practice compliance through labeling. (col. 5, tables 2 and 3 - various alphanumeric and numeric codes specified)</p> <p>Therefore, it would have been obvious to one of ordinary skill, in the art at the time of the invention to combine the teachings of Daggett with production practice data reporting because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Tables 2 and 3 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, table 2 page 13 column 2 and table 3 page 14 column 1.</p> <p>The identifier of the claimed invention is used to convey underlying "production" data making this a functional use of data. Sandor does not teach comparing the production practice data to standards of performance and identifying production practice compliance through labeling. Not applicable.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>
31	<p><b>With respect to claim 26 and 68:</b> Daggett teaches the labeling includes at least one of identifying a government approval, conferring a regulatory shield, identifying the source of conditions conferring a compliance and identifying a source of environmental removal. (paragraphs 32 and 34 - farmer or insurance agent working with farmer can use interactive computer to input was crops are intended to by planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone)</p>	<p>In Paragraph 32 Daggett teaches the farmer is requested to input for each management unit what, if any, insured crops he intends to plant with in that management zone.</p> <p>In Paragraph 34 Daggett teaches the preferred GIS fields at a minimum will track multiple agronomic characteristics of each management zone.</p> <p>Tracking general agronomic data of a management zone of what a farmer intends to do, as Daggett teaches, does not meet the requirement the labeling includes at least one of identifying a government approval, conferring a regulatory shield, identifying the source of conditions conferring compliance and identifying a source of environmental removal. General agronomic data is useful for insurance purposes, but does not meet the standards required to produce a saleable</p>

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		emission reduction.
32	<p><b>With respect to claim 27:</b> Daggett teaches .the limitations in the rejections above. Daggett does not teach the production practice data converting includes the production practice protocol having conversion factors selected from the group including reducing GHG emissions, providing clean water credits, providing clean air credits, providing soil erosion credits, and certifying animal welfare.</p> <p>However, Sandor teaches the production practice data converting includes the production practice protocol having conversion factors selected from the group including reducing GHG emissions, providing clean water credits, providing clean air credits, providing soil erosion credits, and certifying animal welfare. (page 2, paragraph 21; page 3, paragraphs 28 and 31 - "a factor for converting the activity data to one of the GHG emission or GHG emission reduction equivalents" is applied. "The factor is based on the type of energy activity and the selected activity unit.")</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with production practice data converting because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Paragraph 21 is not covered by Sandor filing 7/19/02; the</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 21.</p> <p>Paragraphs 28 and 31 are not covered by Sandor filing 7/19/02: the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 11/03/05, paragraph 28 and 31.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>

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33	<p><b>With respect to claim 28:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach the GHG reducing includes a parameter selected from parameters including effluent loading, quantity animals, manure containment storage period, manure containment storage practice, number of herd turns (annual animal throughput), flaring volume, flaring efficiencies, gas types and generation rates, and chemical manufacturing efficiencies and emissions.</p> <p>However, Sandor teaches the GHG reducing includes a parameter selected from parameters including effluent loading, quantity animals, manure containment storage period, manure containment storage practice, number of herd turns (annual animal throughput), flaring volume, flaring efficiencies, gas types and generation rates, and chemical manufacturing efficiencies and emissions. (page 2, paragraph 21; page 3, paragraphs 28 and 31 - "a factor for converting the activity data to one of the GHG emission or GHG emission reduction equivalents" is applied. "The factor is based on the type of energy activity and the selected activity unit.")</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with GHG reducing because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Paragraph 21 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 21.</p> <p>Paragraphs 28 and 31 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 11/03/05, paragraph 28 and 31.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>

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34	<p><b>With respect to claims 29, 54, 69 and 92:</b>  Daggett teaches providing guidance to the producer for enhancing the production practice responsive to the production practice data. (paragraph 37 - information collected is used to provide recommendations for types, timing, and rates of application for fertilizers)</p>	<p>Daggett teaches in paragraph 37 information can be used to reduce the risk of crop failure on an insured farm as the information collected is used to provide recommendations for types, timing, and rates of application for fertilizers, but this teaching is not responsive to a specific production practice, but could be used for any production practice, and is not responsive to a preselected production practice. McMorris teaches providing guidance to the producer for enhancing the production practice responsive to the production practice data which allows for the producer to meet the requirement of a PDD for the creation of carbon emission credits, rather than information collected is used to provide recommendations for types, timing, and rates of application for fertilizers to reduce the risk of crop failure as Daggett teaches.</p>
35	<p><b>With respect to claims 30, 55, 70 and 93:</b>  Daggett teaches the guidance providing includes at least one of systemically balancing product output, emptying manure containment structure more frequently, and practicing a no-till for multiple contiguous years. (Paragraphs 45-47 – discussion of the effects of tiling and earning carbon credits through no-tillage practices.</p>	<p>Daggett teaches in paragraphs 45-47 in a discussion of the effects of tiling and earning carbon credits through no-tillage practices how tillage practices and weather may impact the amount of carbon in the soil and that changes in management may create A CARBON CREDIT. Daggett then goes on to list a series of other production practices which may create carbon credits. McMorris teaches providing guidance to the producer for enhancing the production practice responsive to the production practice data responsive to a PDD and the guidance at least one of systemically balancing product output, emptying manure containment structure more frequently, and practicing a no-till for multiple contiguous years, rather than a general discussion of how soil carbon credits may be created as taught by Daggett. A general discussion of what carbon credits may be will not allow the creation of a carbon credit which meets the requirements of a PDD to allow the creation of a saleable carbon emission reduction.</p>

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36	<p><b>With respect to claim 31:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach the environmental data modifying includes accounting for a data variance within +/- a predetermined percentage. However, Sandor teaches the environmental data modifying includes accounting for a data variance within +/- a predetermined percentage. (Fig. 6; page 5, paragraphs 67-68 and 71 - each member of the market is managed by a system with an emission baseline; "emissions baseline preferably reflects a detailed assessment of patterns of industrial activity and practical considerations ... reference emission level is preferably established to be able to obtain emissions data, reflect variations in economic cycles"; adjustments can be made to baseline in percentages)</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with environmental data modifying because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Fig. 6; paragraphs 67-68 and 71 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, Figure 6 paragraphs 54-55 and 58.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>
37	<p><b>With respect to claims 32, 56, 71 and 94:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach at least one of allocating a first portion of the effective environmental data to a reserve pool, committing a portion of the reserve pool for mitigating delivery risk, and committing a portion of the reserve pool to mitigate permanence risk. However, Sandor teaches at least one of allocating a first portion of the effective environmental data to a reserve pool, committing a portion of the reserve pool for mitigating delivery risk, and committing a portion of the reserve pool to mitigate permanence risk. (Page 4 paragraphs 52-54 - registry stores emission reduction practices and results; page 4, paragraph 56; page 9, paragraph 111 - at year-end emission source must transfer allowances or offsets equal to total emissions).</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with allocating</p>	<p>Paragraphs 52-54, 56, and 111 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04 paragraphs 39-41, 43, and 91.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p>

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	a portion of the environmental data to a reserve pool because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11)	Appears for 1st time in Sandor 1/15/04, paragraph 9.
38	<b>With respect to claims 33, 57, 72 and 95:</b> Daggett teaches the portion of the reserve pool includes at least one of an escrow pool and a leveraged instrument pool for backing a commercial insurance policy. (Figure 5; paragraphs 32 and 34 - insurance application includes section for landowner identifying information as well as latitude and longitude information; farmer or insurance agent working with farmer can use interactive computer to input was crops are intended to by planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone)	In Figure 5; paragraphs 32 and 34 – Daggett teaches an insurance application includes section for landowner identifying information; as well as latitude and longitude information; farmer or insurance agent working with farmer can use interactive computer to input was crops are intended to by planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone. Daggett does not teach as McMorris does the portion of the reserve pool includes at least one of an escrow pool and a leveraged instrument pool for backing a commercial insurance policy. The fact of identifying the land owner, his mailing address, a real estate description, a power of attorney, production activity, a possible reduction activity, any protocol used to calculate a Carbon Credit, and a signature of the applicant does not, as McMorris teaches, allow the use of a reserve pool which includes at least one of an escrow pool and a leveraged instrument pool for backing a commercial insurance policy to insure any carbon credits created will be backed, not only by the information in a PDD, but also by a reserve pool of emissions reductions backed up by a commercial insurance policy.



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39	<b>With respect to claims 34, 58 and 96:</b> Daggett teaches providing a payment to the producer for the portion of the environmental data. (paragraphs 46, 48, 49, and 59-61 - carbon credits can be purchased; carbon sequestering is the verification or information that the agreed practice to create the carbon credits is still being followed)	In paragraphs 46, 48, 49, and 59-61, Daggett (46) teaches how tillage practices and weather may impact the amount of carbon in the soil, (48) that protocols are being developed to measure carbon, (49) that companies and consumers will buy carbon credits or offsets because they want or need to reduce their emissions, and (59-61) discusses how the C-Store matrix and CQESTR model which are expected to be available to allow PC software applications for the transfer of GIS data for the determination of carbon credits. None of the above paragraphs teach as McMorris does providing a payment to the producer for the portion of the environmental data responsive to the production practice outlined in the PDD, but only discuss in general how carbon credits could be purchased not the specific means and methods of the creation of these credits as McMorris teaches.
40	<b>With respect to claim 35:</b> Daggett teaches aggregating the production practice data from a plurality of producers. (paragraph 41 - farmers involved in the federal MPCl program are already required to report their acreage planted and production harvested)	Daggett teaches in paragraph 41 farmers involved in the federal MPCl program are already required to report their acreage planted and production harvested, but the collection of this data to meet government regulations reports, their acreage planted, and production harvested This is general data responsive to no specific production practice or producer so it has no bearing on aggregating the production practice data from a plurality of producers responsive to production practices of a PDD as taught by McMorris.
41	<b>With respect to claim 36:</b> Daggett teaches the plurality of producers includes at least one common production practice. (paragraph 47 - "common practices that may create carbon credits in many soils and locations are: minimum and no-till tillage practices, cropland retirement" and others)	In paragraph 47 Daggett teaches there are common practices that may create carbon credits in many soils and locations are: minimum and no-till tillage practices, cropland retirement" and others, but does not teach as McMorris does the use of production practice data specific to a PDD from a plurality of producers includes at least one common production practice. Daggett teaches only there are common practices which may create Carbon Credits, not as McMorris does that production practice data specific to a PDD from a plurality of producers includes at least one common production practice

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42	<p><b>With respect to claims 37, 73 and 97:</b> Daggett teaches the registering includes at least one of verifying a commercial suitability of the effective environmental data, recording the registering, designating ownership of the effective environmental data, (Figure 5; paragraphs 32 and 34 – application includes section for landowner identifying information as well as latitude and longitude information; farmer or insurance agent working with farmer can use interactive computer to input what crops are intended to be planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone). Daggett does not teach assigning a unique identifier thereto, and monitoring a transaction thereof.</p> <p>However, Sandor teaches assigning a unique identifier thereto, and monitoring a transaction thereof. (col. 5, tables 2 and 3 - various alphanumeric and numeric codes specified).</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the information of Daggett with the unique identifier of Sandor because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>In Figure 5 Daggett teaches identifying the land owner, his mailing address, a real estate description, a power of attorney, production activity, a possible reduction activity, any protocol used to calculate a Carbon Credit, and a signature of the applicant to certify the carbon emissions reductions claimed on this document meet some requirement to the best of his ability. It makes no mention, as McMorris teaches, the registering includes at least one of verifying a commercial suitability of the effective environmental data, recording the registering, designating ownership of the effective environmental data. Daggett identifies no data included in Figure 5 to a GIS position for other than the farmers location, but rather to general real-estate description, not to a production practice specified by a PDD. Additionally it certifies a non defined carbon emission reduction, not the environment data specific to a PDD which is needed for the creation of a carbon emission reduction as taught by McMorris. Because the data Daggett teaches to be collected is general, and not specific to a PDD, the information will not allow the recording the registering, designating ownership of the effective environmental data.</p> <p>Tables 2 and 3 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, table 2 page 13 column 2 and table 3 page 14 column 1.</p> <p>The identifier of the claimed invention is used to convey underlying "production" data making this a functional use of data. Sandor does not teach protocol identifiers.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>

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Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
43	<p><b>With respect to claims 38, 74 and 98:</b> Daggett teaches the unique identifier assigning includes at least one of a protocol related identifier, vintage, geographically referenced coordinates, specific emission reduction accounting, encryption. (Figure 5 - .application includes section for landowner identifying information as well as latitude and longitude information).</p>	<p>In Figure 5 Daggett teaches identifying the land owner, his mailing address, a latitude and longitude for his address, a real estate description, a power of attorney, production activity, a possible reduction activity, any protocol used to calculate a Carbon Credit, and a signature of the applicant to certify the carbon emissions reductions claimed on this document meet some requirement to the best of his ability. It makes no mention of how any of this information could be used in the development of a unique identifier, but is rather just the collection of the general information for identifying a farmer. It does not, as McMorris teaches, develop a unique identifier assigned which includes at least one of a protocol related identifier, vintage, geographically referenced coordinates, specific emission reduction accounting, or encryption.</p>
44	<p><b>With respect to claims 39 and 75:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach the unique identifier is a serial number associated with a transaction. However, Sandor teaches the unique identifier is a serial number associated with a transaction. (col. 5, tables 2 and 3 - various alphanumeric and numeric codes specified).</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with the unique identifier of Sandor because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Tables 2 and 3 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, table 2 page 13 column 2 and table 3 page 14 column 1.</p> <p>The identifier of the claimed invention is used to convey underlying "production" data making this a functional use of data.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>

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Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
45	<p><b>With respect to claims 40 and 76:</b> Daggett teaches the transaction monitoring includes at least one of monitoring a sale, transfer, exchange, and retirement of the environmental emission data. (paragraph 60 - "therefore, as carbon credits are sold from a management zone, an indication is made in the GIS information that [the] management zone has had its carbon credits sold")</p>	<p>In paragraph 60 Daggett teaches only as carbon credits are sold from a management zone, an indication is made in the GIS information that [the] management zone has had its carbon credits sold. This does not take into consideration carbon credits will be sold for multiple years from the same GIS location so unless, as McMorris has taught, the transaction monitoring includes at least one of monitoring a sale, transfer, exchange, and retirement of the environmental emission data a sale can not take place. The indication is made in the GIS information that [the] management zone has had its carbon credits sold does not provide sufficient information to monitor a transaction which would meet the requirements as outlined in any carbon emission sale.</p>
46	<p><b>With respect to claim 41:</b> Daggett teaches the converting to an emission reduction unit includes at least one of using the unit for an offset, a credit, and an allowance. (paragraphs 49 and 60 - "companies and consumers will buy carbon credits because the need or want to reduce their emissions but find it more cost effective to buy offsets"; "[therefore, as carbon credits are sold fro a management zone, an indication is made in the GIS information that [the] management zone has had its carbon credits sold").</p>	<p>Daggett teaches in paragraph 49 companies and consumers will buy carbon credits because the need or want to reduce their emissions but find it more cost effective to buy offsets; and in paragraph 60 therefore, as carbon credits are sold from a management zone, an indication is made in the GIS information that [the] management zone has had its carbon credits sold"). It does not teach as McMorris does the conversion of an emission reduction to a carbon credit requires at least one of using the unit for an offset, a credit, and an allowance but only that carbon credits are sold from a management zone with no indication of how they are created and verified in a commercial manner.</p>
47	<p><b>With respect to claims 42 and 99:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach the converting to an emission reduction unit includes choosing a registry jurisdiction. However, Sandor teaches the converting to an emission reduction unit includes choosing a registry jurisdiction. (Page 2, paragraph 21; page 3, paragraphs 28 and 31 - "a factor for converting the activity data to one of the GHG emission or GHG emission reduction equivalents" is applied. "The factor is based on the type of energy activity and the selected activity unit"; factor can be based on location feature that is related to the geographic location of energy activities).</p>	<p>Paragraph 21, 28, and 31 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>21 Appears for 1st time in Sandor 1/15/04, paragraph 21.  28 Appears for 1st time in Sandor 11/03/05, paragraph 28.  31 Appears for 1st time in Sandor 11/03/05, paragraph 31.</p>

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	<p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with the converting in Sandor because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>
48	<p><b>With respect to claim 43:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach contracting to transfer the title of a plurality of emission reduction units within a time period. However, Sandor teaches contracting to transfer the title of a plurality of emission reduction units within a time period. (page 4, paragraph 56 - at year-end emission source must transfer allowances or offsets equal to total emissions).</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with the transfer of title in Sandor because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11)</p>	<p>Paragraph 56 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 43.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9</p>

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Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
49	<p><b>With respect to claim 44:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach at least one of allocating at least a portion of a reserve pool for mitigating transfer risk, assigning title to at least a portion of a reserve pool for mitigating transfer risk, and transferring title for at least a portion to an escrow account. However, Sandor teaches at least one of allocating at least a portion of a reserve pool for mitigating transfer risk, assigning title to at least a portion of a reserve pool for mitigating transfer risk, and transferring title for at least a portion to an escrow account. (Paragraphs 12, 53 and 101 - trades are transferred across accounts in the registry; the holdings of the registry can be exchange emission offsets generated by mitigation projects; "compliance through surrender of three different forms of CFIs allows mitigation resources to flow to their highest-impact-per-dollar activity).</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with transferring portion of reserve pool to mitigate transfer risk because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Paragraph 12, 53 and 101 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>12 Appears for 1st time in Sandor 1/15/04, paragraph 10.  53 Appears for 1st time in Sandor 1/15/04, paragraph 40.  101 Appears for 1st time in Sandor 1/15/04, paragraph 83.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9</p>
50	<p><b>With respect to claim 45:</b> Daggett teaches selling the emission reduction unit. (Paragraphs 49 and 60 - "companies and consumers will buy carbon credits because the need or want to reduce their emissions"; "therefore, as carbon credits are sold from a management zone, an indication is made in the GIS information that [the] management zone has had its carbon credits sold").</p>	<p>In Paragraphs 49 and 60 Daggett teaches companies and consumers will buy carbon credits because the need or want to reduce their emissions"; "therefore, as carbon credits are sold from a management zone, an indication is made in the GIS information that [the] management zone has had its carbon credits sold. Selling of an emission reduction is obvious, but the conversion of the effective environmental data from a preselected PDD, and creating an emission reduction which will meet real requirements for a sale is not, and these facts are what McMorris teaches to enable selling the emission reduction unit.</p>

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Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
51	<p><b>With respect to claims 46, 59, 79 and 100:</b>  Daggett teaches the limitations in the rejections above. Daggett does not teach establishing a pool for a plurality of emission reduction units and accessing the pool during a point of sale event for reducing at least a portion of the environmental emissions resulting from the point of sale event. However, Sandor teaches establishing a pool for a plurality of emission reduction units and accessing the pool during a point of sale event for reducing at least a portion of the environmental emissions resulting from the point of sale event. (page 4 paragraphs 52-54 - registry stores emission reduction practices and results; page 4, paragraph 56; page 9, paragraph 111 - at year-end emission source must transfer allowances or offsets equal to total emissions )</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with establishing a pool for emission reduction unit and accessing the pool because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Paragraphs 52, 53, 54, 56, and 111 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>52 Appears for 1st time in Sandor 1/15/04, paragraph 39.  53 Appears for 1st time in Sandor 1/15/04, paragraph 40.  54 Appears for 1st time in Sandor 1/15/04, paragraph 41.  56 Appears for 1st time in Sandor 1/15/04, paragraph 43.  111 Appears for 1st time in Sandor 1/15/04, paragraph 91.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9</p>
52	<p><b>With respect to claims 47, 60, 80 and 101:</b>  Daggett teaches the limitations in the rejections above. Daggett does not teach the point of sale event is selected from a group including at least one of an airline ticket, fuel at pump, coal for heating or electricity generation, and purchase of automobile. However, Sandor teaches the point of sale event is selected from a group including at least one of an airline ticket, fuel at pump, coal for heating or electricity generation, and purchase of automobile. (Page 4, paragraphs 59 - 60 - emission allowances sold at auction).</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with a point of sale event because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized; market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Paragraphs 59 and 60 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>59 Appears for 1st time in Sandor 1/15/04, paragraph 46.  60 Appears for 1st time in Sandor 1/15/04, paragraph 47.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9</p>

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Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
53	<p><b>With respect to claims 48, 61 and 81:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach transferring title of the emission reduction unit for offsetting at least a portion of the environmental emission. However, Sandor teaches transferring title of the emission reduction unit for offsetting at least a portion of the environmental emission. (Paragraph 56 - at year-end emission source must transfer allowances or offsets equal to total emissions).</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with the transferring of title in Sandor because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Paragraph 56 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 43.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>
54	<p><b>With respect to claims 49 and' 82:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach the environmental emission results from at least one of an emitter, a plurality of emitters, and a variety of emitters, and wherein the emitter is at least one of a direct emitter and an indirect emitter. However, Sandor teaches the environmental emission results from at least one of an emitter, a plurality of emitters, and a variety of emitters, and wherein the emitter is at least one of a direct emitter and an indirect emitter. (Paragraph 84 - multi sector emissions monitoring).</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with the emitters of Sandor because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Paragraph 84 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 71.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9</p>



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Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
55	<p><b>With respect to claims 50 and 83:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach allocating a plurality of emission reduction units from a plurality of producers of a controlling entity for offsetting environmental emissions of the controlling entity. However, Sandor teaches teach allocating a plurality of emission reduction units from a plurality of producers of a controlling entity for offsetting environmental emissions of the controlling entity. (Paragraph 56 - at year-end emission source must transfer allowances or offsets equal to total emissions).</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with the plurality of emission reduction units of Sandor because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Paragraph 56 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 43</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9</p>
56	<p>With respect to claim 51: Daggett teaches the limitations in the rejections above. Daggett does not teach environmental emissions removal is selected form a practice group consisting of sequestration, mitigation, and avoidance. However, Sandor teaches environmental emissions removal is selected from a practice group consisting of sequestration, mitigation, and avoidance. (Paragraphs 107-108 – offset project categories include carbon sequestration; mitigation quantities also assessed for individual projects).</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with the mitigation and sequestration of Sandor because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Paragraphs 107-108 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>107 Appears for 1st time in Sandor 1/15/04, paragraph 87. 108 Appears for 1st time in Sandor 1/15/04, paragraph 88.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>
57	<b>With respect to claim 52:</b> Daggett teaches:	
57, bullet # 1	comparing a production practice of the producer to pre-selected qualification criteria; (paragraph 35 -	In paragraph 35 Daggett teaches insurance provider compares for example "all corn

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	insurance provider compares for example "all corn planted or a specified soil type within a specified county or counties"	planted or a specified soil type within a specified county or counties," but comparing all corn planted on a specified soil type within a specified county or counties, not to a specific producer of a specific production practice to pre-selected qualification criteria as McMorris does. Comparing all emissions as Daggett does, will provide information which will allow insurance providers to more accurately categorize risk, but the general nature of the data does not allow for the creation of emission reductions specific to an individual producer as McMorris teaches.
57, bullet #2	collecting production practice data regarding the producer responsive to the protocol; (paragraphs 32 and 34 - farmer or insurance agent working with farmer can use interactive computer to input was crops are intended to by planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone)	In Paragraph 32 Daggett teaches a farmer or insurance agent working with farmer can use interactive computer to input what crops are intended to be planted within the management zone. While in Paragraph 34 Daggett teaches utilizing GIS to track agronomic characteristics of management zones where accepted agronomic conditions such as pH levels are sampled, as well as timing and amount of fertilizer applied within each management zone. Neither paragraph 32 or 34 teaches, as McMorris does, collecting production practice data regarding the producer responsive to the preselected qualification criteria protocol, where the producer must not only determine what his production practice will be in order to meet the requirements of a preselected qualification criteria protocol but also provide data to show the requirements have been met. This is very different than Daggett teaches that a farmer will provide information on what he intends to plant but is not responsive to any preselected qualification criteria protocol, only to accepted agronomic practices.
57, bullet #3	confirming the received production practice data meets a pre-selected data standard; (paragraphs 32 and 34 - farmer or insurance . agent working with farmer can use interactive computer to input was crops are intended to by planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone)	In Paragraph 32 Daggett teaches a farmer or insurance agent working with farmer can use interactive computer to input what crops are intended to be planted within the management zone. While in Paragraph 34 Daggett teaches utilizing GIS to track agronomic characteristics of management zones where accepted agronomic conditions such as pH levels are sampled as well as timing and amount of fertilizer applied within each management zone. Neither paragraph 32 or 34 teaches as McMorris does

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<b>Office Action Paragraph / Bullet#</b>	<b>Office Action Comments</b>	<b>Applicants Response</b>
		confirming the received production practice data meets a pre-selected data standard. Daggett teaches the collection of general agronomic data which is responsive only to generally acceptable agronomic practices, not to confirming the received production practice data meets a pre-selected data standard as McMorris teaches. With out confirming the production practice data meets a pre-selected data standard there is no way to prove a protocol to create carbon emissions has been followed, and no saleable carbon credits can be created.
57, bullet #4	taking title to the environmental data by other than the producer. (paragraphs 49 and 60 - data verifying carbon credit is verified; credits are sold to individuals or companies)	In paragraphs 49 and 60 Daggett teaches data verifying carbon credit is verified; credits are sold to individuals or companies, but selling the verified credits to individuals or companies does not teach as McMorris does taking title of the environmental data by other than the producer, and then converting of effective environmental data to an emission reduction for a transfer to allow the sale. Daggett teaches the selling of an emission reduction, but he does not provide or mention any mechanism for taking title to the environmental data which is a key element in the production of carbon credits which will have value.
57, bullet #5	Daggett does not teach, however, Sandor teaches:  selecting a producer of at least one of environmental emissions and environmental emissions removal; (paragraphs 86-89 - members engaged in electric power products; members can include forest products, chemicals, cement, manufacturing, and municipal sectors)	Paragraphs 86-89 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.  86-89 Appears for 1st time in Sandor 1/15/04, paragraphs 73-76.
57, bullet #6	selecting a protocol sufficient for comparing the production practice to a baseline practice; (page 5, paragraphs 67-68 and 71 - each member of the market is managed by a system with an emission baseline; "[e]missions baseline preferably reflects a detailed assessment of patterns of industrial activity and practical considerations ... reference emission level is preferably established to be able to obtain emissions data, reflect variations in economic cycles"; adjustments can be made to baseline)	Paragraphs 67-68 and 71 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.  67-68 Appears for 1st time in Sandor 1/15/04, paragraphs 54-55.  71 Appears for 1st time in Sandor 1/15/04, paragraph 58.
57, bullet #7	converting the production practice data to	Paragraphs 21, 28, and 31 are not covered

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<b>Office Action Paragraph / Bullet#</b>	<b>Office Action Comments</b>	<b>Applicants Response</b>
	<p>environmental data using pre-selected conversion factors; (page 2, paragraph 21; page 3, paragraphs 28 and 31 - "a factor for converting the activity data to one of the GHG emission or GHG emission reduction equivalents" is applied. "The factor is based on the type of energy activity and the selected activity unit.")</p> <p>Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the production practice and production practice data of Daggett with the data selecting and converting of Sandor because of the need for an emissions allowance trading system. (Sandor: paragraph 9)</p>	<p>by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>21 Appears for 1st time in Sandor 1/15/04, paragraph 21. 28 Appears for 1st time in Sandor 11/03/05. 31 Appears for 1st time in Sandor 11/03/05.</p> <p>Paragraph 9 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>9 Appears for 1st time in Sandor 1/15/04, paragraph 8.</p>
58	<p><b>With respect to claims 53 and 63:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach modifying the environmental data to effective environmental data. (page 5, paragraphs 67-68 and 71 - each member of the market is managed by a system with an emission. baseline; "[e]missions baseline preferably reflects a detailed assessment of patterns of industrial activity and practical considerations ... reference emission level is preferably established to be able to obtain emissions data, reflect variations in economic cycles"; adjustments can be made to baseline).</p>	<p>Paragraphs 67-68 and 71 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>67-68 Appears for 1st time in Sandor 1/15/04, paragraphs 54-55.</p> <p>71 Appears for 1st time in Sandor 1/15/04, paragraph 58</p>
59	<p><b>With respect to claim 62:</b> Daggett teaches:</p>	

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Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
59, bullet #1	collecting production practice data regarding the production practice responsive to the protocol; (paragraphs 32 and 34 - farmer or insurance agent working with farmer can use interactive computer to input was crops are intended to be planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone)	In Paragraph 32 Daggett teaches a farmer or insurance agent working with farmer can use interactive computer to input was crops are <b>intended</b> to be planted within the management zone. While in Paragraph 34 Daggett teaches utilizing GIS to track agronomic characteristics of management zones where accepted agronomic conditions such as pH levels are sampled as well as timing and amount of fertilizer applied within each management zone. Neither paragraph 32 or 34 teaches as McMorris does collecting production practice data regarding the production practice responsive to the protocol. Daggett teaches the collection of general agronomic data which is responsive only to generally acceptable agronomic practices, not to collecting production practice data regarding the production practice responsive to the protocol as McMorris teaches. Without collecting production practice data regarding the production practice responsive to the protocol there is no way to prove a protocol to create carbon emissions has been followed, and no carbon credits can be created.
59, bullet #2	Daggett does not teach, however Sandor teaches:  selecting a production practice yielding at least one of environmental emissions and environmental emissions removal; (san: paragraphs 86-89 - members engaged in electric power products; members can include forest products, chemicals, cement, manufacturing, and municipal sectors)	Paragraphs 86-89 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.  86-89 Appears for 1st time in Sandor 1/15/04, paragraphs 73-76.
59, bullet #3	selecting a protocol sufficient for comparing the production practice to a baseline practice; (page 5, paragraphs 67-68 and 71 - each member of the market is managed by • a system with an emission baseline; "[e]missions baseline preferably reflects a detailed assessment of patterns of industrial activity and practical considerations ... reference emission level is preferably established to be able to obtain emissions data, reflect variations in economic cycles"; adjustments can be made to baseline)	Paragraphs 67-68 and 71 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.  67-68 Appears for 1st time in Sandor 1/15/04, paragraphs 54-55.  71 Appears for 1st time in Sandor 1/15/04, paragraph 58.

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Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
59, bullet #4	<p>converting the production practice data to environmental data using pre-selected conversion factors; (page 2, paragraph 21; page 3, paragraphs 28 and 31 - "a factor for converting the activity data to one of the GHG emission or GHG emission reduction equivalents" is applied. "The factor is based on the type of energy activity and the selected activity unit.")</p>	<p>Paragraphs 28 and 31 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>21 Appears for 1st time in Sandor 1/15/04, paragraph 21. 28 Appears for 1st time in Sandor 11/03/05.</p>
59, bullet #5	<p>registering at least a portion of the environmental data for commercial use thereof. (page 4, paragraphs 53 and 54 – registry serves as official record of emission allowance)</p> <p>Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the production practice and production practice data of Daggett with the data selecting, registering and converting of Sandor because of the need for an emissions allowance trading system. (Sandor: paragraph 9)</p>	<p>Paragraphs 53 and 54 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>53 Appears for 1st time in Sandor 1/15/04, paragraph 40. 54 Appears for 1st time in Sandor 1/15/04, paragraph 41.</p>
60	<p><b>With respect to claim 77:</b> Daggett teaches the limitations in the rejections above. Daggett does not teach, however Sandor teaches converting the environmental data to a plurality of emission reduction units and choosing a registry jurisdiction for the registering thereof. (page 7, paragraph 92 - facilities can be from various countries; page 9, paragraphs 107 and 113 - methane source can be a landfill or agricultural waste; projects noted are from US, North America and Brazil; page 2, paragraph 21; page 3, paragraphs 28 and 31 - "a factor for converting the activity data to one of the GHG emission or GHG emission reduction equivalents" is applied. "The factor is based on the type of energy activity and the selected activity unit.").</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett with converting the environmental data to emission reduction units because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11).</p>	<p>Paragraphs 92,107,113, 21, 28, and 31 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>92 Appears for 1st time in Sandor 1/15/04, paragraph 80. 107 Appears for 1st time in Sandor 1/15/04, paragraph 87. 113 Appears for 1st time in Sandor 1/15/04, paragraph 93. 21 Appears for 1st time in Sandor 1/15/04, paragraph 21. 28 Appears for 1st time in Sandor 11/03/05, paragraph 28. 31 Appears for 1st time in Sandor 11/03/05, paragraph 31.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>

## EXHIBIT A

Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
61	<p><b>With respect to claim 78:</b> Daggett teaches selling at least a portion of the plurality of emission reduction units. (paragraphs 49 and 60 - "companies and consumers will buy carbon credits because they need or want to reduce their emissions"; "therefore, as carbon credits are sold from a management zone, an indication is made in the GIS information that [the] management zone has had its carbon credits sold").</p>	<p>In paragraphs 49 and 60 Daggett teaches "companies and consumers will buy carbon credits because they need or want to reduce their emissions"; "therefore, as carbon credits are sold from a management zone, an indication is made in the GIS information that [the] management zone has had its carbon credits sold", but stating companies and consumers will buy carbon credits because they need or want to reduce their emissions does not relate to selling at least a portion of the plurality of emission reduction units as McMorris teaches, but only to the assumption companies and consumers will buy carbon credits. Daggett teaches as carbon credits are sold from a management zone an indication is made in the GIS information that the management zone has had its carbon credits sold, but this does not teach as McMorris does selling at least a portion of the plurality of emission reduction units but rather a method of tracking the sale of carbon credits sold from a management area which does not take into consideration the vintage (year the carbon credits were created), or if the carbon credits are responsive to any specific protocol.</p>
62	<p><b>With respect to claim 84:</b> Daggett teaches:</p>	

## EXHIBIT A

Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
62, bullet #1	collecting production practice data regarding the production practices responsive to the protocol; (paragraphs 32 and 34 - farmer or insurance agent working with farmer can use interactive computer to input was crops are intended to by planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone)	In Paragraph 32 Daggett teaches a farmer or insurance agent working with farmer can use interactive computer to input was crops are <b>intended</b> to by planted within the management zone. While in Paragraph 34 Daggett teaches utilizing GIS to track agronomic characteristics of management zones where accepted agronomic conditions such as pH levels are sampled as well as timing and amount of fertilizer applied within each management zone. Neither paragraph 32 or 34 teaches, as McMorris does, collecting production practice data regarding the production practice responsive to the protocol. Daggett teaches the collection of general agronomic data which is responsive only to generally acceptable agronomic practices, not to collecting production practice data regarding the production practice responsive to the protocol as McMorris teaches. With out collecting production practice data regarding the production practice responsive to the protocol there is no way to prove a protocol to create carbon emissions has been followed, and no carbon credits can be created.
62, bullet #2	confirming the production practice data meets a pre-selected data standard; (paragraphs 32 and 34 - farmer or insurance agent working with farmer can use interactive computer to input was crops are intended to by planted within the management zone; pH levels are sampled as well as timing and amount of fertilizer applied within each management zone)	In Paragraph 32 Daggett teaches a farmer or insurance agent working with farmer can use interactive computer to input was crops are intended to be planted within the management zone. While in Paragraph 34 Daggett teaches utilizing GIS to track agronomic characteristics of management zones where accepted agronomic conditions such as pH levels are sampled as well as timing and amount of fertilizer applied within each management zone. Neither paragraph 32 or 34 teaches as McMorris does confirming the production practice data meets a pre-selected data standard. Daggett teaches the collection of general agronomic data which is responsive only to generally acceptable agronomic practices, not to confirming the production practice data meets a pre-selected data standard as McMorris teaches. With out confirming the production practice data meets a pre-selected data standard there is no way to prove a protocol to create carbon emissions has been followed, and no carbon credits can be created.



**EXHIBIT A**

<b>Office Action Paragraph / Bullet#</b>	<b>Office Action Comments</b>	<b>Applicants Response</b>
62, bullet #3	Daggett does not teach, however Sandor teaches:  selecting a plurality of producers having production practices yielding at least one of environmental emissions and environmental emissions removal; (paragraphs 86-89 - members engaged in electric power products; members can include forest products, chemicals, cement, manufacturing, and municipal sectors)	Paragraphs 86-89 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.  86-89 Appears for 1st time in Sandor 1/15/04, paragraphs 73-76.
62, bullet #4	selecting at least one protocol sufficient for comparing each of the production practices to a baseline practice; (page 5, paragraphs 67-68 and 71 - each member of the market is managed by a system with an emission baseline; "[e]missions baseline preferably reflects a detailed assessment of patterns of industrial activity and practical considerations ... reference emission level is preferably established to be able to obtain emissions data, reflect variations in economic cycles"; adjustments can be made to baseline)	Paragraphs 67-68 and 71 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.  67-68 Appears for 1st time in Sandor 1/15/04, paragraphs 54-55.  71 Appears for 1st time in Sandor 1/15/04, paragraph 58.
62, bullet #5	converting the production practice data to environmental data using pre-selected conversion factors; (page 2, paragraph 21; page 3, paragraphs 28 and 31 - "a factor for converting the activity data to one of the GHG emission or GHG emission reduction equivalents" is applied. "The factor is based on the type of energy activity and the selected activity unit.")and	Paragraphs 21, 28, and 31 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.  21 Appears for 1st time in Sandor 1/15/04, paragraph 21. 28 Appears for 1st time in Sandor 11/03/05, paragraph 28. 31 Appears for 1st time in Sandor 11/03/05, paragraph 31.

## EXHIBIT A

Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
62, bullet #6	<p>registering the effective environmental data for commercial use thereof. (page 4, paragraphs 53 and 54 - registry serves as official record of emission allowance)</p> <p>Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the production practice and production practice data of Daggett with the data selecting, registering and converting of Sandor because of the need for an emissions allowance trading system. (Sandor: paragraph 9)</p>	<p>Paragraphs 53 and 54 are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>53 Appears for 1st time in Sandor 1/15/04, paragraph 40. 54 Appears for 1st time in Sandor 1/15/04, paragraph 41.</p> <p>Paragraph 9 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>9 Appears for 1st time in Sandor 1/15/04, paragraph 8.</p>
63	<p><b>With respect to claim 102:</b> Daggett teaches transferring title of the environmental data for offsetting at least a portion of the environmental emissions. (paragraphs 49 and 60 - "companies and consumers will buy carbon credits because the need or want to reduce their emissions but find it more cost effective to buy offsets"; "therefore, as carbon credits are sold from a management zone, an indication is made in the GIS information that [the] management zone has had its carbon credits sold").</p>	<p>In paragraphs 49 and 60 Daggett teaches "companies and consumers will buy carbon credits because they need or want to reduce their emissions"; "therefore, as carbon credits are sold from a management zone, an indication is made in the GIS information that [the] management zone has had its carbon credits sold", but stating companies and consumers will buy carbon credits because they need or want to reduce their emissions does not relate to transferring title of the environmental data for offsetting at least a portion of the environmental emissions as McMorris teaches, but only to the assumption companies and consumers will buy carbon credits. Daggett teaches as carbon credits are sold from a management zone an indication is made in the GIS information that the management zone has had its carbon credits sold, but this does not teach as McMorris does transferring title of the environmental data for offsetting at least a portion of the environmental emissions, but rather a method of tracking the sale of carbon credits sold from a management area which does not take into consideration the vintage (year the carbon credits were created), or if the carbon credits are responsive to any specific protocol.</p>

## EXHIBIT A

Office Action Paragraph / Bullet#	Office Action Comments	Applicants Response
64	<p><b>Claim 19</b> is rejected under 35 U.S.C. 103(a) as being unpatentable over <b>Daggett</b> in view of <b>Sandor</b> as applied to claims 1-18 above, and further in view of <b>Mahosky et al. (US 2003/0101070 A1)</b> (hereinafter "<b>Mahosky</b>").</p>	<p>All Sandor claims previously reference in 1-18 above are not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p>
65	<p><b>With respect to claim 19:</b> Daggett/Sandor teach the limitations in the rejections above. Daggett/Sandor do not teach, however Mahosky teaches the template modifying includes documenting a non-conforming practice. (paragraphs 87-88 and 91 - user can use form wizard to enter information; form can be customized)</p> <p>Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Daggett/Sandor with the documenting of Mahosky because of the need to have "a greenhouse gas emissions trading program that can provide corporations and others an organized, market-based mechanism for cost-effectively reducing global warming gases". (Sandor: paragraph 11)</p>	<p>In paragraphs 87-88 and 91 Mahosky teaches the user can use form wizard to enter information; form can be customized but his does not teach, as McMorris does, the template modifying includes documenting a non-conforming practice. That a wizard can enter information or a form can be customized does not teach a way to document a non-conforming practice which will support the creation of a carbon emission.</p> <p>Paragraph 11 is not covered by Sandor filing 7/19/02; the only Sandor filing which is prior art to Applicant's 1st provisional filing.</p> <p>Appears for 1st time in Sandor 1/15/04, paragraph 9.</p>

## EXHIBIT B

EXHIBIT B

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**PROVISIONAL APPLICATION FOR PATENT COVER SHEET**

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

INVENTOR(S)					
Given Name (first and middle (if any))	Family Name or Surname	Residence (City and either State or Foreign Country)			
Richard	Sander	Chicago, IL 60610			
<input checked="" type="checkbox"/> Additional inventors are being named on the 1 separately numbered sheets attached hereto					
TITLE OF THE INVENTION (280 characters max)					
Emission Reduction and Trading Program					
CORRESPONDENCE ADDRESS					
Direct all correspondence to:					
<input checked="" type="checkbox"/> Customer Number	32042		Place Customer Number Bar Code Label here		
OR	Type Customer Number here				
<input checked="" type="checkbox"/> Firm or Individual Name	J. Clay Matthews, Patton Boggs, LLP				
Address	8484 Westpark Drive				
Address	9 <sup>th</sup> Floor				
City	McLean	State	Va	ZIP	22102
Country	USA	Telephone	(703) 744-8000	Fax	(703) 744-8001
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification Number of Pages	23	<input type="checkbox"/> CD(s), Number			
<input checked="" type="checkbox"/> Drawing(s) Number of Sheets	2	<input type="checkbox"/> Other (specify)			
<input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76					
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)					
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.					
<input type="checkbox"/> A check or money order is enclosed to cover the filing fees					
<input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number:				502228	FILING FEE AMOUNT (\$) 160.00
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.					
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
<input checked="" type="checkbox"/> No.					
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are: _____					

Respectfully submitted, J. Clay Matthews Date 7/19/02  
 SIGNATURE \_\_\_\_\_ REGISTRATION NO. 50735  
 TYPED or PRINTED NAME J. Clay Matthews, Ph.D. (if appropriate)  
 TELEPHONE (703) 744-8000 Docket Number: \_\_\_\_\_

**USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT**

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting.

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**PROVISIONAL APPLICATION COVER SHEET**  
Additional Page

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Docket Number		Type a plus sign (+) inside this box →	+
INVENTOR(S)/APPLICANT(S)			
Given Name (first and middle (if any))	Family or Surname	Residence (City and either State or Foreign Country)	
Miko Alice	Walsh LeBlanc	Downers Grove, IL 60516 New York, NY 10023	

Number 1 of 1

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<h1>FEE TRANSMITTAL</h1> <h2>for FY 2002</h2> <p><i>Patent fees are subject to annual revision.</i></p>		Complete if Known	
		Application Number	
		Filing Date	July 19, 2002
		First Named Inventor	Sandor, Richard
		Examiner Name	Not Yet Assigned
		Group / Art Unit	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		Attorney Docket No.	
TOTAL AMOUNT OF PAYMENT (\$)		160.00	

METHOD OF PAYMENT (check all that apply)				FEE CALCULATION (continued)																																																																																																																																																																															
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unintentional</td> <td></td> </tr> <tr> <td>141</td> <td>1,260</td> <td>241</td> <td>640</td> <td>Petition to revive - unintentional</td> <td></td> </tr> <tr> <td>142</td> <td>1,260</td> <td>242</td> <td>640</td> <td>Utility issue fee (for issuance)</td> <td></td> </tr> <tr> <td>143</td> <td>460</td> <td>243</td> <td>230</td> <td>Design issue fee</td> <td></td> </tr> <tr> <td>144</td> <td>620</td> <td>244</td> <td>310</td> <td>Plant issue fee</td> <td></td> </tr> <tr> <td>123</td> <td>130</td> <td>123</td> <td>130</td> <td>Petitions to the Commissioner</td> <td></td> </tr> <tr> <td>123</td> <td>50</td> <td>123</td> <td>50</td> <td>Processing fee under 37 CFR 1.17 (g)</td> <td></td> </tr> <tr> <td>126</td> <td>180</td> <td>126</td> <td>180</td> <td>Submission of Information Disclosure Sheet</td> <td></td> </tr> <tr> <td>581</td> <td>40</td> <td>581</td> <td>40</td> <td>Recording each patent assignment per property (times number of properties)</td> <td></td> </tr> <tr> <td>148</td> <td>740</td> <td>248</td> <td>370</td> <td>Filing a submission after final rejection (37 CFR § 1.129(e))</td> <td></td> </tr> <tr> <td>149</td> <td>740</td> <td>249</td> <td>370</td> <td>For each additional invention to be examined (37 CFR § 1.129(e))</td> <td></td> </tr> <tr> <td>171</td> <td>740</td> <td>271</td> <td>370</td> <td>Request for Continued Examination (RCE)</td> <td></td> </tr> <tr> <td>161</td> <td>600</td> <td>161</td> <td>600</td> <td>Request for expedited examination of a design application</td> <td></td> </tr> </tbody> </table>				Large Entity	Small Entity	Fee Description	Fee Paid	105	130	205	65	Surcharge - late filing fee (cash)		127	50	227	25	Surcharge - late provisional filing fee or cover sheet		128	130	129	130	Non-English specification		147	2,520	147	2,520	For filing a request for re-examination		112	927	112	927	Requesting publication of TIR prior to Examiner action		113	1,840	113	1,840	Requesting publication of TIR after Examiner action		116	110	216	65	Extension for reply within 1st month		118	430	218	203	Extension for reply within 2nd month		117	620	217	400	Extension for reply within 3rd month		119	1,440	219	720	Extension for reply within 4th month		123	1,940	223	860	Extension for reply within 5th month		119	320	219	160	Notice of Appeal		120	320	220	160	Filing a brief in support of an appeal		121	280	221	140	Request for oral hearing		138	1,510	138	1,510	Petition to Institute a public use proceeding		148	110	248	55	Petition to revive - unintentional		141	1,260	241	640	Petition to revive - unintentional		142	1,260	242	640	Utility issue fee (for issuance)		143	460	243	230	Design issue fee		144	620	244	310	Plant issue fee		123	130	123	130	Petitions to the Commissioner		123	50	123	50	Processing fee under 37 CFR 1.17 (g)		126	180	126	180	Submission of Information Disclosure Sheet		581	40	581	40	Recording each patent assignment per property (times number of properties)		148	740	248	370	Filing a submission after final rejection (37 CFR § 1.129(e))		149	740	249	370	For each additional invention to be examined (37 CFR § 1.129(e))		171	740	271	370	Request for Continued Examination (RCE)		161	600	161	600	Request for expedited examination of a design application	
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SUBMITTED BY		Complete if applicable	
Name (Print/Type)	J. Clay [Signature]	Registration No. / Agent	50,735
Signature	[Signature]	Telephone	703-744-6000
		Date	July 19, 2002

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UNITED STATES PATENT APPLICATION

OF: Richard Sandor, Mike Walsh, and Alice LeBlanc

FOR: EMISSION REDUCTION AND TRADING PROGRAM

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to a method of applying a capped emissions trading system to greenhouse gas emissions, based on per project carbon credits. The method generates standardized protocols and establishes efficient Market systems with low transaction costs.

2. Description of Relevant Art

[0002] The demand for action among the public, governments, and the private sector to take cost effective steps to address the threat of climate change has grown steadily over the past decade. Many of the major industrial nations including many of the international energy and industrial companies have long sought the design of a greenhouse gas emissions trading program that can provide corporations and others an organized, Market-based mechanism for reducing global warming gases. This endeavor presents a means for effectively addressing climate change while offering its owners and members a significant commercial opportunity.

[0003] The scientific community is warning that rapid increases in the concentration of greenhouse gases in the earth's atmosphere is caused by human activity -- mainly fossil fuel combustion and deforestation -- and is introducing the risk of fundamental and costly changes in the earth's climate system. The risks include more severe drought/precipitation cycles; longer and more extreme heat waves; spread of tropical diseases; damage to vegetation and agricultural systems;



threats to coastlines and property due to higher sea levels and storm surges. Independent of the scientific debate, the perception that global warming presents a problem that needs to be addressed is widespread. This concern was first crystallized in the 1992 United Nations Framework Convention on Climate Change, in which countries agreed to prevent or minimize the causes of climate change and mitigate its adverse effects taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost.

[0004] The United States signed the Framework Convention at Rio de Janeiro, and, subsequent to ratification by the U.S. Senate and by 185 other countries, the agreement entered into force in 1994. There is also growing recognition that Market-based emissions trading systems offer the least cost method for managing environmental risks. Emissions trading is not just a theoretically attractive concept. The environmental and economic success of the U.S. sulfur dioxide allowance trading program to reduce acid rain, as well as other similar Market, provides clear evidence of the benefits of emissions trading on a large-scale. Emissions trading introduces scarcity by establishing limits on overall emissions, specifying firm-level limits, and allowing those who can cut emissions at low cost to make extra cuts. Companies facing high costs to cut emissions can comply by purchasing tradable emission rights from those who make extra cuts. The Market in a property-like instrument emission allowances helps assure efficient use of the limited resource (the environment) and yields a price that signals the value society places on use of the environment. That price represents the financial reward paid to those who reduce emissions, and also indicates the value of creating innovative pollution reduction technique.

[0005] While national and sub-national governments have been studying greenhouse gas emissions trading programs, for several years private sector leaders in many countries have financed mitigation projects and conducted trading in informal "carbon credits". A World Bank study reports that this nascent over-the-counter Market has included several dozen significant trades. The study found that,

in the absence of any regulatory framework, the dollar volume of over-the-counter transactions has already surpassed \$100 million. Furthermore, The Economist magazine projects an annual volume of trading ranging from \$60 billion to \$1 trillion. Numerous governments have moved beyond planning and are implementing formal greenhouse gas Market, including the U.K., Denmark, and the Netherlands, as well as Massachusetts and New Hampshire. A large number of states, provinces, exchanges and multilateral institutions have made detailed preparations for trading. It is in this context, recognition of a serious environmental risk, desire for least-cost responses, increasing regulation worldwide, and demands from stakeholders - that the present invention offers an attractive strategic choice for the private sector.

#### Background on Market-based solutions to environmental problems

[0006] The first major environmental success of the emissions trading concept was demonstrated in the 1980's U.S. program to phase out lead from motor fuel. This was followed by the highly successful U.S. Environmental Protection Agency sulfur dioxide (SO<sub>2</sub>) emissions trading program, which continues to prove the concept on a large scale. To reduce acid rain, an overall cap on SO<sub>2</sub> emissions was imposed on the dirtiest power plants. Utilities that find it expensive to cut sulfur emissions can buy allowances from utilities that make extraordinary cuts at low cost. While the first "compliance" year was 1995, trading started several years earlier. The first EPA auction was administered by the Chicago Board of Trade in 1993. Through private transactions and annual auctions, electric utilities trade emission allowances to arrive at an efficient use of mitigation resources.

[0007] The SO<sub>2</sub> program has been extremely successful: emissions were reduced faster than required and costs are far below most forecasts. There has also been steady growth in the trading of allowances, from 700,000 tons in 1995 to approximately 12 million tons in 2001. The Market has now reached a value of approximately \$2 billion each year for registered trades.

[0008] Application of flexible, Market-based mechanisms for reducing greenhouse gas emissions has achieved widespread intellectual and political support. This broad acceptance of emissions trading was reflected in the Kyoto Protocol, which established several emissions trading mechanisms. Industrialized countries that become Parties to this treaty (which has not yet entered into force), will accept legally binding commitments to reduce emissions to levels below those experienced in 1990. There are growing signs of the emergence of a Market for greenhouse gas emissions, despite uncertainties regarding the Kyoto Protocol. These initiatives come from the public, private and non-profit sectors, as well as partnerships among these sectors.

[0009] It is clear that the demand to reduce greenhouse gases will grow over time. Taking advance action to limit greenhouse gas emissions and create value for these reductions makes good business sense. However, these emerging Market, and an international Market linking them, are still in their infancy. This results in large transaction costs and Market inefficiencies. Examples of barriers to trading are regulatory uncertainty, lack of a clear, widely-accepted definition of the commodity, lack of standards for monitoring, verification, and trade documentation, lack of standards for eligibility of project-based emission offsets, and lack of organized Market and clear Market prices. It is against this background, and to address these problems, that the present invention was conceived.

### 3. Summary of the Invention

[0010] It is therefore an object of this invention to provide a method for greenhouse gas reduction through a commodity based trading program.

[0011] It is another object of this invention to apply the concept of a capped emissions trading system to greenhouse gas emissions.

[0012] It is still another object of this invention to standardize protocols and systems required for an efficiently functioning gas reduction Market with low transactions costs.

[0013] It is still another object of this invention to provide an expandable program capable of supporting more participants and emission sources.

[0014] It is still another object of this invention to provide a mechanism for achieving price discovery.

[0015] It is still another object of this invention to allow flexibility in the methods, location and timing of emission reductions so that greenhouse gas emissions can be reduced cost effectively;

[0016] It is still another object of this invention to facilitate trading with low transaction costs;

[0017] It is still another object of this invention to build Market institutions and infrastructure and develop human capital in greenhouse gas emissions trading;

[0018] It is still another object of this invention to provide improved emissions management;

[0019] It is still another object of this invention to integrate with other international or sovereign trading regimes.

[0020] It is still another object of this invention to develop Market architecture that rewards innovative technology and management including sustainable farming and forestry practices.

[0021] An electronic mechanism for hosting green house gas commodity trading will provide participants with a central location that facilitates trading, publicly reveals price information, and contributes to the broad objectives of the emission reduction plan. The system will reduce the cost of locating trading counter parties and finalizing trades, an important benefit in a new Market. The system may also be used as the platform for conducting the periodic auctions. The Green House Gas electronic Market could host trading in standardized contracts that, for example, provide a uniform trade size, pricing terms and payment requirements. The green house gas trading system should have the following core features, low cost to users; easy-to-use for participants, allow for real-time trading and price information, and readily interface with the registry accounts of participants in the commodity Market.

[0022] These and other objects and advantages of the present invention will become apparent from the subsequent detailed description of the preferred embodiment and the claims taken in conjunction with the accompanying drawings.

#### 4. Brief Description of the Drawings

[0023] The preferred embodiments are illustrated in the drawings in which like reference numerals refer to like elements and in which:

[0024] Figure 1 is a flow diagram illustrating the relationships between the Registry Accounts of the present invention, the Emissions Database, and Traders.

[0025] Figure 2 is a flow diagram illustrating the commodity auction of the present invention.

#### 5. Detailed Description of the Invention

##### Scope of the Market

[0026] Current estimates for annual global man-made CO<sub>2</sub> emissions are 26 billions tons, of which 6.5 billion tons (or 25%) originate in the U.S. The top fifty U.S. electric generation sources annually emit more than 2 billion tons.

[0027] Several independent organizations have estimated the size of the global greenhouse gas emissions trading Market and formed forecasts of Market prices for CO<sub>2</sub> emission reductions.

Tables 1 and 2 summarize their findings.

Table 1

Estimates of Market Size

Source	Projection of Size of Greenhouse Gas Emissions Trading Market
World Bank	\$10 billion b 2005
US Council on Foreign Relations	\$2.3 trillion of trades completed b 2012
Energy Policy Journal	\$24-37 billion of trades completed annually during the period 2008-2012
Resource and Energy Economics	\$46.6 billion of trades annually (unspecified time frame)
The Economist	\$60 billion - \$1 trillion of trades annually (unspecified time frame)
Lockwood Consulting	\$1.2 trillion Market by 2008 - estimated \$30 billion/year worth of global reductions

Sources: "Value at Risk: Climate Change and the Future of Governance - CERES Sustainable Governance Project Report", April 2002; Reuters, April 7, 2000

Table 2

Projected Prices for CO<sub>2</sub> Emission Credits

Source	Market Scenario	Projected Price (per ton of CO <sub>2</sub> )
Wharton Econometric Forecasting Associates	Limited trading	\$54*
Charles River Associates	Limited trading	\$27
Charles River Associates	Full trading	\$16
Rand Environmental Policy Center	Trading	\$13-\$27
Lockwood Consulting	Trading	\$20
Environmental Financial Products LLC	Trading	\$5.50

\* Projected price in 2010

Source: Richard L. Sandor and Michael J. Walsh, "Kyoto or Not: Opportunities in Carbon Trading are Here", *Environmental Quality Management*, Volume 10, Number 3, Spring 2001.

## System Registry

[0028] The registry serves as the official record of emission allowance and offset holdings of each participant in the commodity Market. Trades become officially acknowledged for compliance purposes only when they are transferred across accounts in the registry. Subsequent to the end of a compliance year, each emission source must designate for retirement a quantity of emission units equal to total emissions of that participant during the compliance year.

[0029] Upon enrollment as a Market participant, an emission source is allocated a time stream of original issue allowances generally issued in years. Regardless of the method of trading employed, all deliveries of emission allowances and offsets occur by having the transferor instruct the registry to move allowances or offsets from its account to the account of the transferee. Subsequent to year-end, the emission source must transfer a quantity of appropriate vintage allowances or offsets equal to its total emissions during the prior year to the retirement account. The registry is designed to have the following features: Secure Internet access by participants to their own accounts; Use of unique, individualized serial numbers that follow internationally accepted design standards; Serial number system that allows for later identification of original recipient of issued emission allowances and offsets; view-only accessibility of accounts by the public; full secure access by Market

administrator; expandable; able to interface with registries being developed in other green house gas Market now being designed; direct interface and match-up with emissions database; designed trading platforms to directly interface with the registry.

#### Annual Emission Allowance Auctions

[0030] Annual auctions of green house gas emission allowances in the Market program will provide an orderly mechanism for assisting the Market. By publicly revealing prices, the auctions provide critical information to participants. Prices help participants formulate reasonable private trading terms and, importantly, provide signals indicating which internal green house gas mitigation actions are economically logical and which actions are best performed by other participants who face lower mitigation costs.

[0031] The annual auctions conducted in the U.S. EPA's SO<sub>2</sub> allowance program (and administered by the Chicago Board of Trade) both prove the value of periodic auctions and provide a sound model for the Market. In addition, the SO<sub>2</sub> auction model will be very familiar to electric power companies, who represent an important sector for the Market. Electricity generators have seven years of experience with the procedures, style and consequences of the auctions. This experience will help facilitate effective utilization of the Market auctions. Salient features of the proposed Market auction structure are presented in Table 1.

Table 1- Salient Features of Proposed Climate Exchange Auctions

Dates	Bids due March 25, Offers due March 15
Percentage of allowances withheld for auction	2%
Vintages auctioned	Allowances usable in the current year ("spot" auction), and two-years in the future ("forward" auction)
Administrator	To be determined
Deadlines	April 1, 2002 (annual)
Pricing Style	Discriminating
Proceeds	Returned pro rata to participants

#### Market Electronic Trading System

[0032] An electronic mechanism for hosting Market trading will provide participants with a central location that facilitates trading, publicly reveals price information, and contributes to the broad objectives of the pilot. The system will reduce the cost of locating trading counter parties and finalizing trades, an important benefit in a new Market. The system may also be used as the platform for conducting the periodic auctions.

[0033] As such systems have taken root in a variety of commodity Market, business-to-business (B2B) systems and consumer-oriented systems, their effectiveness in spreading information and hosting active trading has been proven. The Market electronic Market could host trading in standardized contracts that, for example, provide a uniform trade size, pricing terms and payment requirements.

[0034] The Market trading system has the following core features: low cost to users; easy-to-use for participants; allow for real-time trading and price information; readily interface with the Market registry.

#### Gases Covered

[0035] Emissions of the following greenhouse gas emissions from facilities owned by Market Members will be included, as applicable: carbon dioxide (CO<sub>2</sub>); methane (CH<sub>4</sub>); nitrous oxide (N<sub>2</sub>O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulfur hexafluoride (SF<sub>6</sub>).

[0036] All greenhouse gases will be converted to carbon dioxide equivalent using the one hundred year global warming potential values published by the Intergovernmental Panel on Climate Change (IPCC).

#### Instruments, Vintages, Banking

[0037] The instruments are: Greenhouse Gas Emission Allowances (GGEA); Certified Emission Offsets (CEO) generated by mitigation projects; and Certified Early Action Credits (CEAC).



[0038] Each instrument represents one metric ton of CO<sub>2</sub> and will be designated with a specific serial number and annual vintage. Each instrument is recognized as equivalent when surrendered for compliance. Instruments may be used in compliance in their designated vintage year or in later years.

#### Market Emission Baseline

[0039] Each Market Member's emission baseline is the average of its emissions during selected previous years. Baselines will be adjusted to reflect acquisition or disposition of facilities.

[0040] Market Emission Reduction Schedule, Greenhouse Gas Emission Allowances Allocations

[0041] Market Members will be issued Greenhouse Gas Emission Allowances, at the inception of the program, for the four-year period in an amount reflecting the Market emission reduction schedule:

Year	Market Emission Reduction Schedule, Greenhouse Gas Emission Allowances Allocations
1	1% below participant's baseline
2	2% below participant's baseline
3	3% below participant's baseline
4	4% below participant's baseline

#### Economic Growth Provisions (EGPSM)

[0042] The maximum amount of CO<sub>2</sub> equivalent emissions that will be recognized in determining the annual true-up for each Market Member will be 2% above that participant's baseline emission level during year 1 and year 2, and 3% above baseline during year 3 and year 4.

#### Annual True-up

[0043] Subsequent to each compliance year, each Market Member must surrender any combination of Greenhouse Gas Emission Allowances, Certified Emission Offsets and Certified Early Action Credits in an amount equal to CO<sub>2</sub> equivalent emissions released from that Member's included facilities during the compliance year (subject to the Economic Growth Provisions and constraints on the use of CEOs and CEAC).

#### Registry and Electronic Trading Platform

[0044] An internet-accessible Market Registry will be managed and administered by the Market and will contain all Greenhouse Gas Emission Allowances, Certified Emission Offsets and Certified Early Action Credits. The Market Registry will be used as the official holder of record and transfer mechanism and will be integrated with the Market electronic trading platform. All transactions involving these instruments must occur on the Market electronic trading platform.

#### Auctions

[0045] Market-administered auctions will occur on a regularly scheduled basis.

#### Facilities Included, Emissions Monitoring

[0046] Market Members primarily engaged in electric power production will include in their baseline and quarterly emission reports CO<sub>2</sub> emissions from all power generation facilities having a rated capacity of 25 megawatts or larger. These Members may opt-in emissions from facilities having rated capacity less than 25 megawatts, but must include all such facilities if this option is chosen. Electric power generating units will use CO<sub>2</sub> emissions data from continuous emission monitors (CEMs) as reported to the U.S. Environmental Protection Agency. In other cases where CEM data is not available, such Members will quantify CO<sub>2</sub> emissions by using the fuel consumption methods contained in the U.S. Code of Federal Regulations 40 CFR Part 75 or methods equivalent to 40 CFR Part 75.

[0047] Market electric power sector Members may opt-in SF<sub>6</sub> emissions from electric power transmission equipment. Emissions from such systems will be quantified using protocols provided by the U.S. Environmental Protection Agency. These Members may also opt-in emissions from vehicles they own and operate or lease by using the protocols developed by the World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD) initiative.

[0048] Other Market Members, including Members in the forest products, chemicals, cement, manufacturing, and municipal sectors will report green house gas emissions as follows: CO<sub>2</sub>,

emissions from stationary source fossil fuel combustion will be quantified using the protocols developed by the WRI/WBCSD; Process emissions (e.g. N<sub>2</sub>O, PFCs and CO<sub>2</sub>) will be quantified using the applicable WRI/WBCSD protocols; CO<sub>2</sub> emissions from vehicles will be included in the Member's baseline and quarterly emission reports if these emissions are greater than 5% of total entity-wide emissions and represent an integral part of the Member's operations. Otherwise, Market Members have the option to include emissions from vehicles in their baseline emissions and quarterly emission reports. Vehicle emissions will be quantified using the WRI/WBCSD protocols.

[0049] Market will specify methods for monitoring emissions for the following sectors and activities: oil and gas sector; gas pipelines; landfill methane; net carbon stocks in above-ground biomass in industrial forests; offset projects including reforestation, renewable energy and fuel switching.

[0050] Greenhouse Gas Emission Allowances issuance for carbon sequestration by Market Members in the forest products.

[0051] Market Members in the forest products sector that have wood harvesting operations will quantify and report net changes in carbon stocks (expressed in metric tons of CO<sub>2</sub> equivalent) held in above-ground biomass on land owned by the Member. These Members will be issued on an annual basis.

[0052] Greenhouse Gas Emission Allowances in an amount reflecting net increases in stored carbon during the 1-4 years time period. These Members must surrender GGEAs, CEOs or CEAC on an annual basis in an amount reflecting net decreases in stored carbon during the four year time period. The calculation of changes in carbon stocks will be adjusted to sector reflect acquisition or disposition of forest land.

#### Emissions Reporting and Verification

[0053] Market Members must submit quarterly emission reports. For Market Members primarily engaged in electric power production the quarterly reports must be signed by the Member's

designated representative as defined in Title IV of the 1990 Clean Air Act Amendments. For other Market Members the quarterly reports must be signed by a corporate officer. Unless specified otherwise, reporting on offset projects and forest carbon storage by Members in the forest products sector will occur annually. Emissions and offset project reports and their underlying data will be subject to verification and audits. Verification and audit activities will be undertaken by entities approved by the Market.

#### Expansion of Market Membership

[0054] The Market participant base will be enlarged as additional entities seek to enroll. Expansion will be managed with a view to furthering the goals of the Exchange and avoiding price congestion. New Members will be bound to the same terms and obligations as Original Members.

#### Certified Emission Offsets (CEO)

[0055] Eligible projects can be recorded in the Market Registry and will be issued Certified Emission Offsets on the basis of mitigation tonnage realized during the four year period.

[0056] Market will specify project eligibility, project baselines, quantification, monitoring and verification protocols. CEOs will be issued after mitigation occurs and required documentation is presented to Market. With the exception of reforestation and afforestation projects, which will be eligible if undertaken on or after January 1, 1995, projects in the specified categories will qualify if they were placed into operation on or after January 1, 1999. In some cases, offset projects undertaken by Market Members prior to 1999 may be eligible under the Certified Early Action Credits provisions described below.

[0057] The initial categories of eligible offset project categories are: landfill methane destruction in the U.S.; agricultural methane destruction in the U.S.; carbon sequestration in U.S. reforestation projects; carbon sequestration in U.S. agricultural soils; fuel switching, landfill methane destruction, renewable energy and forestry projects in Brazil.

[0058] CEOs from projects undertaken in Mexico and Canada will be integrated into the program during 2003. Potentially eligible projects located outside the U.S., Mexico, Canada and Brazil may be registered as early as 2003, with the allowed use of such offsets to be determined by the Standing Committee on Certified Emission Offsets described below. That Committee will also recommend additions to the list of eligible offset project types and locations, and will consider recommending automatic recognition of CEOs from mitigation realized by approved Clean Development Mechanism projects. The minimum amount of CEO issuance to any project or group of projects in any single category is 10,000 tons CO<sub>2</sub> equivalent per year. Individual projects that achieve mitigation quantities of less than 10,000 tons CO<sub>2</sub> equivalent per year must be combined with other projects within the same project category by a Market registered aggregator. Trading can occur in quantities less than 10,000 tons.

#### Certified Landfill Offsets U.S. (CLOs) (U.S.)

[0059] Landfill methane collection and combustion systems placed into operation at locations on or after January 1, 1999 and not required by law under New Source Performance Standards will be issued Certified Landfill Offsets on the basis of tons of methane destroyed, net of CO<sub>2</sub> released upon combustion, during the years 2003 through 2006. Certified Landfill Offsets will be issued at a net rate of 18.25 tons CO<sub>2</sub> for each ton of methane combusted.

#### Certified Agricultural Methane Offsets (CAMOs) (U.S.)

[0060] Agricultural methane collection and combustion realized by manure digesters placed into operation in the U.S. on or after January 1, 1999 will be issued Certified Agricultural Methane Offsets annually on the basis of tons of methane destroyed, net of CO<sub>2</sub> released upon combustion, during the years 2003 through 2006. CAMOs will be issued at a net rate of 18.25 tons CO<sub>2</sub> for each ton of methane combusted.

#### Certified Forestry Offsets (CFOs) (U. S.)

[0061] Qualifying reforestation and afforestation projects initiated on or after January 1, 1995 will be issued Certified Forestry Offsets on the basis of increases in tons of CO<sub>2</sub> equivalent of carbon storage realized during the 2003-2006 period. Market will specify project eligibility, project baselines, quantification, monitoring and verification protocols.

#### Certified Soil Offsets Certified Soil Offsets (CSOs) ( U.S.)

[0062] Certified Soil Offsets will be issued annually for agricultural soil carbon sequestration activities in designated states, counties and parishes in the U.S. Midwest and Mississippi delta regions. Certified Soil Offset will be issued at a rate of 0.5 metric tons CO<sub>2</sub> per acre per year in cases where farmers commit to continuous no-till through 2006. Certified Soil Offsets will be issued at a rate of 0.75 metric tons CO<sub>2</sub> per acre per year in cases where farmers commit to maintain through 2006 soil carbon storage realized as a result of grass cover plantings that were undertaken on or after January 1, 1999.

[0063] Market will specify project eligibility, project baselines, quantification, monitoring and verification protocols.

#### Certified Emission Reductions (CERs) (Brazil)

[0064] Certified Emission Reductions will be issued to qualifying projects undertaken in Brazil. Qualifying projects will include: reforestation and/or assisted forest regeneration; avoided deforestation together with reforestation and/or assisted forest regeneration; fuel switching; landfill methane destruction; and renewable energy generation from solar, wind, small hydroelectric and biomass systems.

#### Certified Early Action Credit (CEACs)

[0065] Certified Early Action Credits (CEACs) will be issued to certain projects undertaken from 1995 through 1998. To qualify, projects must be off-system; originally undertaken or financed by

Market Members; direct emissions reductions or involve sequestration; clearly owned by the Market Members; measured and verifiable; registered in 1605b, USUI, or an equivalent registry system.

[0066] CEACs can be used for compliance only by the Market Member that originally owned them.

[0067] Certified Early Action Credits will be given to the following project types that meet the eligibility criteria: reforestation, afforestation and avoided deforestation; landfill methane destruction in the U.S.; fuel switching and other energy related USUI projects.

[0068] Certified Early Action Credits will be issued on the basis of mitigation tonnage realized by the qualifying project during the years 1995 through 2006.

#### Electricity Purchase Opt-in Programs (EPOP)

[0069] Market Members sources not primarily engaged in the production of electricity may opt-in purchased electricity as a supplemental reduction objective. When this option is elected, reduction commitments for purchased electricity will be identical to the Market Emission Reduction Schedule (i.e. 1% below baseline in 2003, 2% below baseline in 2004, 3% below baseline in 2005, 4% below baseline in 2006). Market Members that elect this option will receive Greenhouse Gas Emission Allowances when the reduction objective is exceeded. When Market Members opt-in their electricity purchases and their electricity purchase reduction objective is not achieved the Member must surrender Greenhouse Gas Emission

[0070] Allowances and/or Certified Emission Offsets. The baseline electricity purchase quantity is defined as the average of electricity purchases during years 1998 through 2000. The baseline will be adjusted to reflect acquisition or disposition of facilities that consumed power purchased by the Market Member.

[0071] Market Members that opt-in electricity purchases and reduce their electricity purchases to levels below the quantity corresponding to the Market reduction schedule will be issued Greenhouse

Gas Emission Allowances at a rate of 0.61 metric tons CO<sub>2</sub> for each megawatt-hour by which actual power purchased is below the reduction schedule.

[0072] Market Members that opt in electricity purchases and realize electricity purchases in an amount that is above the quantity corresponding to the Market reduction schedule must surrender Greenhouse Gas Emission Allowances and/or Certified Emission Offsets at a rate of 0.61 metric tons CO<sub>2</sub> for each megawatt-hour by which actual power purchased is above the reduction schedule.

[0073] Consistent with the Economic Growth Provision<sup>1</sup>, the maximum recognized increase in purchased power is 2% above baseline in 2003 and 2004, and 3% above baseline in 2005 and 2006.

[0074] The 0.61 metric ton rate is applied only to electricity purchased by U.S. facilities as it reflects the U.S. average emission rate for electricity production during 1998-2000. National average emission rates for Canada and Mexico will be applied to facilities in those countries.

[0075] The initial pool of GGEAs available to be issued to Market Members under this provision will be 0.1% of the program-wide emission baseline per year. If fully subscribed, this quantity would represent 4% of the four-year program-wide targeted emission reduction (which is defined as the program wide emission baseline minus the program-wide emission reduction target during 2003 through 2006).

#### Renewable Fuels

[0076] Emissions associated with combustion of the following renewable fuels will be excluded from Market Member's emission baseline and emission reports: wood, wood wastes and derived fuels; agricultural residues, grasses; landfill and agricultural methane.

#### Jointly Owned Facilities

[0077] Market Members will be responsible for emissions from jointly owned facilities in proportion to the Member's ownership equity share, subject to the following exceptions:



[0078] Market Members not primarily engaged in electric power production will have the option to exclude from their emissions baseline and emission reports emissions from facilities in which the Market Member's equity ownership share is less than 20%.

[0079] Exceptions will be made on a case-by-case basis if a Market Member's ownership share is less than 50% and emissions data from the jointly owned facility is not accessible to the Market Member.

[0080] Entities primarily engaged in electric power production will have the option to exclude from their emissions baseline and emission reports emissions from facilities in which the Market Member's equity ownership share is both less than 20% and represents less than 25 megawatts of generating capacity.

#### New Electric Power Generating Units

[0081] New electric power generating units are units placed into commercial operation on or after January 1, 2001. Each participating Market Member that operates one or more new electric power generating units will be allowed annually to exempt a quantity of emissions that is equivalent to the emissions of a 500 megawatt capacity natural gas combined cycle electricity generating plant operated at 55% of capacity and having a heat rate of 7,000 btu/mwh. The exempt emissions cannot exceed emissions from the new electric power generating unit or units. All new unit emissions above this level will be included as part of the Member's annual emissions.

#### Market Efficiency

##### Objectives

[0082] A limited number of Market constraints will be employed in order to assure that emission mitigation under the Market reflects a balance of emission reductions at Market Member facilities and reductions from off-system projects, and to prevent Market instability and price congestion. Adoption of these constraints reflects the limited scope and pilot nature of the Market. The Market

does not endorse the imposition of limits on trading or on the use of offsets in large scale GHG trading systems that may emerge in Market created by government regulation.

#### Single Firm Sales Limit

[0083] Sales of Greenhouse Gas Emission Allowances by any single Market Member will be limited to 15% of the program-wide targeted emission reductions, which is defined as the difference between the Market program wide emissions baseline, aggregated across all Market Members, and the annual program-wide emission reduction target. This quantity is equal to 1.5% of the program-wide emissions baseline, apportioned over 1-4 years according to the following schedule:

Year	Percent of program-wide baseline emissions that can be sold by a single firm
1	0.15%
2	0.30%
3	0.45%
4	0.60%
<i>Total 1.50% of program-wide baseline emissions</i>	

[0084] Allowed sales by a single firm will be escalated if program-wide emissions rise above baseline levels. The Escalation Mechanisms' will reflect the extent to which program-wide mitigation demand (defined as program-wide emissions minus the program-wide emission reduction target) exceeds program-wide targeted emission reductions (defined as the program-wide emission baseline minus the program-wide emission reduction target).

#### Use of Certified Emission Offsets and Certified Early Action Credits

[0085] Program-wide use of Certified Emission Offsets plus Certified Early Action Credits will be allowed in an amount equal to 50% of the program-wide targeted emissions reductions. This quantity is equal to 5% of the total program wide-baseline emissions, apportioned over 1-4 years according to the following schedule:

Year	Total allowed use of Certified Emission Offsets" plus Certified Early Action Credits as a percent of program-wide baseline emissions
1	0.5%
2	1.0%
3	1.5%
4	2.0%
	Total 5.0% of <i>program-wide baseline emissions</i>

[0086] The total program-wide quantity of Certified Early Action Credits used for compliance in any year will not exceed 50% of the total quantity of Certified Emission Offsets plus Certified Early Action Credits used for compliance.

[0087] Total allowed usage of Certified Emission Offsets plus Certified Early Action Credits will be escalated if program-wide emissions rise above baseline levels. The Escalation Mechanisms' will reflect the extent to which program-wide mitigation demand (defined as program-wide emissions minus the program-wide emission reduction target) exceeds program-wide targeted emission reductions (defined as the program-wide emission baseline minus the program-wide emission reduction target).

#### Offsets from Owned and Operated Facilities

[0088] No Market Member will be allowed to sell Certified Emission Offsets (e.g. Certified Landfill Offsets) produced by facilities that it owns and/or operates in an amount exceeding 10% of the program-wide targeted emission reductions (which is defined as the program-wide emission baseline minus the program-wide emission reduction target). This quantity is equal to 1.0% of the total program wide-baseline emissions, apportioned over 2003-2006 according to the following schedule:

Year	Percent of program-wide baseline emissions that can be sold as CEOs' by Market Members with owned and operated facilities
1	0.1
2	0.2%
3	0.3%
4	0.4%
<i>Total 1.0% of program-wide Baseline emissions</i>	

[0089] Allowed sales by a single Market Member will be escalated proportionately if program-wide emissions rise above baseline levels. The Escalation Mechanisms will reflect the extent to which program-wide mitigation demand (defined as program-wide emissions minus the program-wide emission reduction target) exceeds program-wide targeted emission reductions (defined as the program-wide emission baseline minus the program-wide emission reduction target).

#### Exchange Governance

[0090] Standing Committees comprised of Market Members will be formed for the purpose of providing oversight of specific Market functions. Additional Committees may be formed as necessary.

#### Exchange Executive Committee

[0091] The Exchange Executive Committee will have the following responsibilities: oversee the affairs of the exchange; receive and act upon recommendations from other Market Committees; address any unresolved issues emerging from other Committees; establish additional Committees as necessary.

#### Committee on Certified Emission Offsets

[0092] The Committee on Certified Emission Offsets will have the following responsibilities: recommend additional project types and locations for Market, eligibility and develop rules for such projects; consider recommending automatic recognition of CEOs from mitigation realized by

approved Clean Development Mechanism projects; provide guidance on the project registration process; provide oversight for the registration of projects undertaken in locations that are not initially eligible for CEOs; monitor the diversity of registered project types and propose methods for maintaining diversity as necessary; develop methods for apportioning the use of registered CEOs and CEACs by individual Market Members should the total quantity of these instruments used for compliance exceeds the quantities established by the Market constraints described above.

#### Committee on Market Efficiency

[0093] The Committee on Market Efficiency will have the following responsibilities: monitor Market operations and identify actions that may be needed to enhance Market performance and avoid congestion; oversee the periodic expansion of the Market with a view to assuring efficient Market performance.

#### Committee on Compliance

[0094] The Committee on Compliance will have the following responsibilities: serve as a peer group to monitor compliance with exchange rules; evaluate violations of exchange rules and recommend responses; establish rules and oversee implementation of emissions and project verification, audits and inspections; may provide dispute resolution services.

[0095] It will be apparent that the present invention has been described herein with reference to certain preferred or exemplary embodiments. The preferred or exemplary embodiments described herein may be modified, changed, added to, or deviated from without departing from the intent, spirit and scope of the present invention.

60267481.072002

We claim:

1. A method of trading green house gases as substantially shown and described.

Figure 1 - Relationships Between the CCX Registry Accounts, the Emissions Database, and Traders

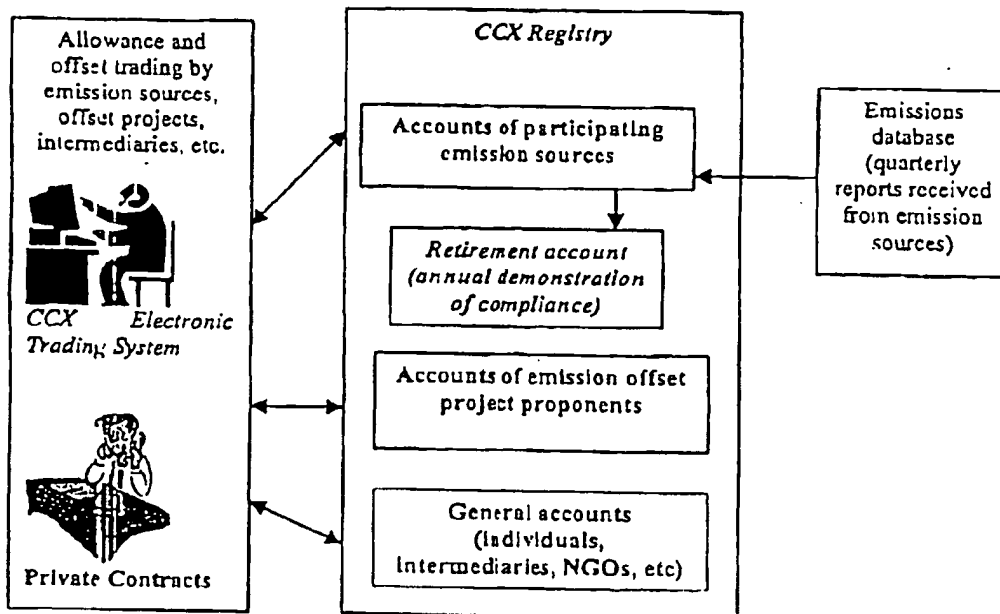
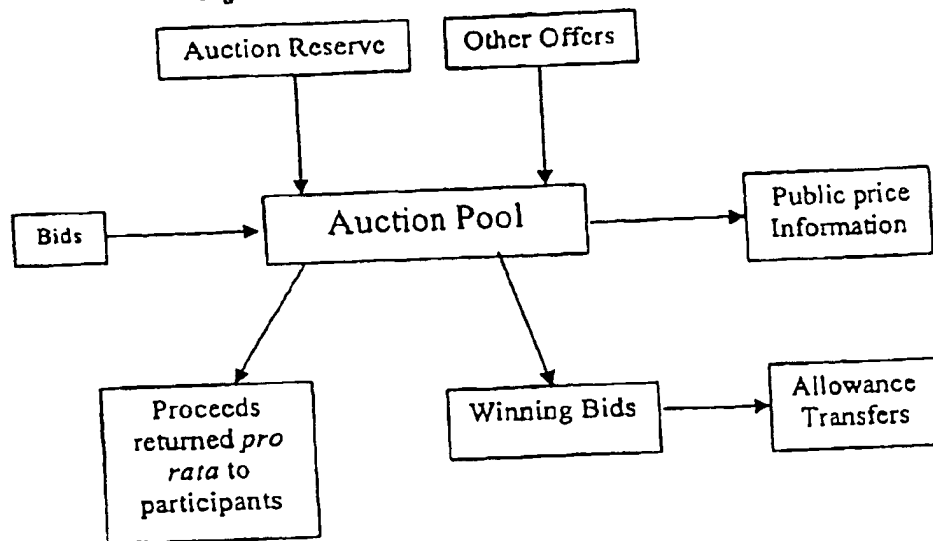


Figure 2 - Overview of Annual CCX Auctions





## EXHIBIT C

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
1	<p>A method of processing environmental emissions, the method comprising:</p> <ul style="list-style-type: none"> <li>selecting a producer of at least one of environmental emissions and environmental emissions removal;</li> <li>comparing a production practice of the producer to pre-selected qualification criteria;</li> <li>contracting with the producer regarding implementation of the production practice;</li> <li>selecting a protocol sufficient for comparing the production practice to a baseline practice;</li> <li>collecting production practice data regarding the producer responsive to the protocol;</li> <li>warranting the production practice data by the producer;</li> <li>confirming the received production practice data meets a pre-selected data standard;</li> <li>converting the production practice data to environmental data using pre-selected conversion factors;</li> <li>taking title to the effective environmental data by other than the producer;</li> <li>modifying the environmental data to effective environmental data;</li> <li>crediting the producer for at least a portion of the effective environmental data; and</li> <li>registering the effective environmental data for commercial use thereof.</li> </ul>	<p>1, 7-4 Read as: See Page 1, and Page 7 (Paragraph 4 as labeled), EXHIBIT D Provisional Application S/N 60/429,267 (priority document)</p> <p>1, 7-4, 8-2</p> <p>1, 7-4, 12-4, 13-2, 13-4, 16-4</p> <p>1, 8-2, 8-4, 13-4, 14-3</p> <p>1, 7-4, 8-2, 8-5, 12-1, 13-4, 14-2, 14-3</p> <p>1, 7-4, 10-1, 12-4, 13-4, 14-3</p> <p>1, 7-4, 8-1, 11-2, 12-4, 13-4, 14-2, 14-3, 16-4</p> <p>1, 7-4, 8-1, 11-2, 12-4, 13-4, 14-2, 14-3, 16-4</p> <p>1, 7-4, 9-3, 13-4, 16-4</p> <p>1, 7-4, 13-4, 14-3, 16-4</p> <p>1, 7-4, 13-4, 14-3, 16-4</p> <p>1, 7-4, 13-4, 14-2, 16-4</p>

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
2	A method according to claim 1, further comprising converting the effective environmental data to an emission reduction unit for a transferring thereof.	1, 7-4, 9-3 and 10-1, 12-4, 13-4 and 14-1, 16-4
3	A method according to claim 1, wherein the producer is selected from a producer group including at least one of agriculture, forestry, enhanced oil recovery, fuel production, semiconductor manufacturing, metal production, coal production, deep geologic sequestration, waste management, and waste landfills.	1, 7-4, 13-4, 16-4
4	A method according to claim 1, wherein the producer includes a plurality of producers from a plurality of governing jurisdictions.	1, 7-4, 10-3, 13-4, 16-4
5	A method according to claim 1, further comprising a pre-assessing of operations data representative of the producer including at least one of collecting production, size and infrastructure data.	1, 7-4, 11-2 and 12-1, 13-4, 14-3, 16-4

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
6	A method according to claim 1, wherein the protocol includes at least one of guidance on measurement methodologies, indirect measurement criteria, modeling, baseline definitions and measurements, IPCC Global Warming Potential (GWP) conversion factors to enable the equivalent comparison of GHG carbon dioxide equivalents (CO <sub>2</sub> e), and individual greenhouse gas performance factors.	1, 7-4, 8-2, 8-5 and 9-1, 13-4, 16-4
7	A method according to claim 1, wherein the protocol includes at least one of guidance relating to environmental reductions, a government certified or approved protocol, and determines emission reduction units.	1, 7-4, 8-2, 8-5 and 9-1, 13-4, 16-4
8	A method according to claim 1, wherein adhering the production practice to the protocol provides a measure of at least one of cleaner air, cleaner water, reduced erosion, electrical power generation, and enhanced land use.	1, 7-4, 8-5 and 9-1, 11-1, 13-4, 16-4
9	A method according to claim 1, wherein the protocol selecting includes selecting a plurality of protocols appropriate for the producer operations	1, 7-4, 8-2, 8-5 and 9-1, 13-4, 16-4

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
10	A method according to claim 1, wherein the production practice data collecting includes collecting available external information source data regarding the producer, and wherein the external information source data includes at least one of site physical data, cropping maps, soil maps, watershed maps, topographical maps, geographical reference data, site permit data, regulatory compliance, overhead photography, infrastructure placement, dimensional data, and commercial performance practices.	1, 7-4, 8-5 and 9-1, 12-1, 13-4, 16-1, 16-4
11	A method according to claim 1, wherein the warranting includes at least one of releasing legal liability for the data collecting, releasing biological security liability, and confirming the accuracy of the data collecting with respect to known production practices.	1, 7-4, 8-5 and 9-1, 12-1, 13-4, 16-4
12	A method according to claim 1, wherein the production practice data collecting includes collecting on-site data regarding the producer.	1, 7-4, 8-5 and 9-1, 12-1, 13-4, 16-1, 16-4
13	A method according to claim 12, wherein the on-site data collecting includes at least one of collecting on-site data supplied by the producer, forming an assessment team for the on-site collecting, forming an assessment team for confirming the on-site data collecting, entering the onsite data into a pre-selected template, and electronically transmitting the production practice data to a data center.	1, 7-4, 8-5 and 9-1, 12-1, 13-4, 14-5, 15-1, 15-2, 15-3, 16-4

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
14	A method according to claim 13, wherein the template provides for input including at least one of questions relevant to the protocol, a commercial standard, environmental compliance, non-conformance, and business needs.	1, 7-4, 8-5 and 9-1, 11-2 and 12-1, 13-4, 14-2, 14-3, 15-3, 16-2, 16-4
15	A method according to claim 14, wherein the data entering into a template further includes recording at least one of time and geographical reference information.	1, 7-4, 15-2, 16-4
16	A method according to claim 13, further comprising tracking the presence of the assessment team on the site using a GPS for enabling subsequent audit trails and reconstruction of assessment progress.	1, 7-4, 15-2, 16-4
17	A method according to claim 13, wherein the template form a part of at least one of an electronic data instrument, and wherein the electronic data instrument provides for data entry and transmission thereof.	1, 7-4, 8-5 and 9-1, 12-1, 13-4, 14-5, 15-1, 15-2, 15-3, 16-4
18	A method according to claim 13, further comprising modifying the template responsive to the onsite data collecting.	1, 7-4, 8-5 and 9-1, 12-1, 13-4, 16-1, 16-4

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
19	A method according to claim 18, wherein the template modifying includes documenting a non-conforming practice.	1, 7-4, 14-3, 16-4
20	A method according to claim 1, wherein the production practice data collecting includes collecting commercial performance practice data including at least one of production throughput, production capacity, and animal welfare practices.	1, 7-4, 8-5 and 9-1, 11-2 and 12-1, 13-4, 14-2, 16-3, 16-4
21	A method according to claim 1, further comprising: transmitting the production practice data to a data center; and receiving the production practice data at the data center.	1, 7-4, 8-5 and 9-1, 12-1, 13-4, 14-5, 15-1, 15-2, 15-3, 16-4
22	A method according to claim 21, wherein the production practice data transmitting and receiving further includes at least one of encrypting and decrypting the production practice data, securing the data, and restricting access thereto.	Reference is herein made to priority document Provisional Patent Application S/N 60/498,992 having file date 08/29/03
23	A method according to claim 1, wherein the production practice data confirming includes measuring at least one of the integrity and completeness of the production practice data, and testing data eligibility for processing the production data.	1, 7-4, 8-5 and 9-1, 12-1, 13-4, 14-5, 15-1, 15-2, 15-3, 16-4

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
24	A method according to claim 23, wherein data eligibility testing includes at least one of testing for non-conforming practices, reviewing contract terms for the producer, reviewing pending environmental actions for the producer, comparing production practices documented through the collection of data to the baseline practice, and 3rd party auditing of the production practice data.	1, 7-4, 11-2 and 12-1, 13-4, 14-2, 16-4
25	A method according to claim 1, wherein the production practice data reporting includes at least one of comparing the production practice data to standards of performance and identifying production practice compliance through labeling.	1, 7-4, 11-2 and 12-1, 13-4, 14-2, 16-4
26	A method according to claim 25, wherein the labeling includes at least one of identifying a government approval, conferring a regulatory shield, identifying the source of conditions conferring compliance, and identifying a source of environmental removal.	1, 7-4, 11-2 and 12-1, 13-4, 14-2, 16-4
27	A method according to claim 1, wherein the production practice data converting includes the production practice protocol having conversion factors selected from the group including reducing GHG emissions, providing clean water credits, providing clean air credits, providing soil erosion credits, and certifying animal welfare.	1, 7-4, 8-5 and 9-1, 11-2 and 12-1, 13-4, 14-2, 16-3, 16-4



## EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
28	A method according to claim 27, wherein the GHG reducing includes a parameter selected from parameters including effluent loading, quantity animals, manure containment storage period, manure containment storage practice, number of herd turns (annual animal throughput), flaring volume, flaring efficiencies, gas types and generation rates, and chemical manufacturing efficiencies and emissions.	1, 7-4, 8-5, and 9-1, 9-2, 10-3, 13-4, 16-4
29	A method according to claim 1, further comprising providing guidance to the producer for enhancing the production practice responsive to the production practice data.	1, 7-4, 8-1, 11-2, 12-4, 13-4, 14-2, 14-3, 16-4
30	A method according to claim 29, wherein the guidance providing includes at least one of systematically balancing product output, employing manure containment structure more frequently, and practicing a no-till for multiple contiguous years.	1, 7-4, 8-1, 11-2, 12-4, 13-4, 14-2, 14-3, 16-4
31	A method according to claim 1, wherein the environmental data modifying includes accounting for a data variance within +/- a predetermined percentage.	Reference is herein made to FIGS. 1 and 1A of Exhibit D as supported by the Data Gathering and Data Warehousing processes

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
32	A method according to claim 1, further comprising at least one of allocating a first portion of the effective environmental data to a reserve pool, committing a portion of the reserve pool for mitigating delivery risk, and committing a portion of the reserve pool to mitigate permanence risk.	1, 7-4, 9-3, 10-1, 10-2, 13-4, 16-4
33	A method according to claim 32, wherein the portion of the reserve pool includes at least one of an escrow pool and a leveraged instrument pool for backing a commercial insurance policy.	1, 7-4, 9-3, 10-1, 13-4, 16-4
34	A method according to claim 1, further comprising providing a payment to the producer for the portion of the environmental data.	1, 7-4, 13-2, 13-4, 16-4
35	A method according to claim 1, further comprising aggregating the production practice data from a plurality of producers.	1, 7-4, 9-3, 10-1, 10-2,
36	A method according to claim 35, wherein the plurality of producers includes at least one common production practice.	1, 7-4, 9-3, 10-1, 10-2,

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
37	A method according to claim 1, wherein the registering includes at least one of verifying a commercial suitability of the effective environmental data, recording the registering, designating ownership of the effective environmental data, assigning a unique identifier thereto, and monitoring a transaction thereof.	1, 7-4, 8-3, 11-2, 12-1, 12-2, 12-3, 12-4, 13-1, 13-4, 15-2, 15-3, 16-4
38	A method according to claim 37, wherein the unique identifier assigning includes at least one of a protocol related identifier, vintage, geographically referenced coordinates, specific emission reduction accounting, encryption.	1, 7-4, 12-4, 15-2, 16-4
39	A method according to claim 37, wherein the unique identifier is a serial number associated with a transaction.	1, 7-4, 12-3, 12-4, 14-2, 15-2, 16-4
40	A method according to claim 37, wherein the transaction monitoring includes at least one of monitoring a sale, transfer, exchange, and retirement of the environmental emission data.	1, 7-4, 9-3, 10-1, 10-3, 11-1, 11-2, 12-1, 12-4,
41	A method according to claim 1, wherein the converting to an emission reduction unit includes at least one of using the unit for an offset, a credit, and an allowance.	1, 7-4, 8-2, 8-3, 8-4, 8-5, 9-1, 9-3, 10-1, 10-3, 11-1, 11-2, 12-1, 12-3, 12-4, 13-1, 13-2, 13-4, 16-4

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
42	A method according to claim 1, wherein the converting to an emission reduction unit includes choosing a registry jurisdiction.	1, 7-4, 12-3, 12-4, 14-1, 16-4
43	A method according to claim 1, further comprising contracting to transfer the title of a plurality of emission reduction units within a time period.	1, 7-4, 9-3, 10-1, 13-2, 13-4, 16-4
44	A method according to claim 43, further comprising at least one of allocating at least a portion of a reserve pool for mitigating transfer risk, assigning title to at least a portion of a reserve pool for mitigating transfer risk, and transferring title for at least a portion to an escrow account.	1, 7-4, 10-1, 10-3, 16-4
45	A method according to claim 2, further comprising selling the emission reduction unit.	1, 7-4, 9-3, 10-1, 11-1, 13-1, 13-2, 13-4, 14-1, 16-4
46	A method according to claim 45, further comprising establishing a pool for a plurality of emission reduction units and accessing the pool during a point of sale event for reducing at least a portion of the environmental emissions resulting from the point of sale event.	1, 7-4, 9-3, 10-1, 10-3, 11-1, 13-4, 16-4

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
47	A method according to claim 46, wherein the point of sale event is selected from a group including at least one of an airline ticket, fuel at pump, coal for heating or electricity generation, and purchase of automobile.	1, 7-4, 7-4, 10-3, 11-1, 13-4, 16-4
48	A method according to claim 2, further comprising transferring title of the emission reduction unit for offsetting at least a portion of the environmental emission.	1, 7-4, 9-3, 10-1, 10-2, 13-4, 16-4
49	A method according to claim 48, wherein the environmental emission results from at least one of an emitter, a plurality of emitters, and a variety of emitters, and wherein the emitter is at least one of a direct emitter and an indirect emitter.	1, 7-4, 9-3, 10-1, 10-2, 13-4, 16-4
50	A method according to claim 2, further comprising allocating a plurality of emission reduction units from a plurality of producers of a controlling entity for offsetting environmental emissions of the controlling entity.	1, 7-4, 10-3, 16-4
51	A method according to claim 1, wherein environmental emissions removal is selected from a practice group consisting of sequestration, mitigation, and avoidance.	1, 7-4, 8-5, 9-1, 13-4, 16-4

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
52	<p>A method of processing environmental emissions, the method comprising:</p> <ul style="list-style-type: none"> <li>selecting a producer of at least one of environmental emissions and environmental emissions removal;</li> <li>comparing a production practice of the producer to pre-selected qualification criteria;</li> <li>selecting a protocol sufficient for comparing the production practice to a baseline practice;</li> <li>collecting production practice data regarding the producer responsive to the protocol;</li> <li>confirming the received production practice data meets a pre-selected data standard;</li> <li>converting the production practice data to environmental data using pre-selected conversion factors; and</li> <li>taking title to the environmental data by other than the producer.</li> </ul>	<p>1, 7-4, 13-4, 16-4 (All in claim 52 comply)</p> <p>9-1, 9-3, 10-3, 13-2</p> <p>8-5, 9-1, 10-3, 13-2</p> <p>8-5, 9-1, 11-2, 12-2, 13-2</p> <p>11-2, 12-1</p> <p>11-2, 12-1, 12-3, 12-4, 13-2</p> <p>11-2, 12-1, 12-3, 12-4, 13-2</p> <p>9-3, 10-3, 11-1</p>
53	<p>A method according to claim 52, further comprising modifying the environmental data to effective environmental data;</p>	<p>1, 7-4, 11-2, 12-1, 12-3, 12-4, 13-2, 13-4, 16-4</p>
54	<p>A method according to claim 52, further comprising providing guidance to the producer for enhancing the production practice responsive to the production practice data.</p>	<p>1, 7-4, 10-3, 11-2, 12-2, 13-4, 16-4</p>

## EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
55	A method according to claim 54, wherein the guidance providing includes at least one of systematically balancing product output, emptying manure containment structure more frequently, and practicing a no-till for multiple contiguous years.	1, 7-4, 8-5, 9-1, 13-4, 16-4
56	A method according to claim 52, further comprising at least one of allocating a first portion of the effective environmental data to a reserve pool, committing a portion of the reserve pool for mitigating delivery risk, and committing a portion of the reserve pool to mitigate permanence risk.	1, 7-4, 10-1, 13-4, 16-4
57	A method according to claim 56, wherein the portion of the reserve pool includes at least one of an escrow pool and a leveraged instrument pool for backing a commercial insurance policy.	1, 7-4, 10-1, 13-4, 16-4
58	A method according to claim 52, further comprising providing a payment to the producer for at least a portion of the environmental data.	1, 7-4, 9-3, 10-3, 13-2, 13-4, 16-4
59	A method according to claim 52, further comprising establishing a pool for a plurality of emission reduction units and accessing the pool during a point of sale event for reducing at least a portion of the environmental emissions resulting from the point of sale event.	1, 7-4, 10-3, 11-1, 13-4, 16-4

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
60	A method according to claim 59, wherein the point of sale event is selected from a group including at least one of an airline ticket, fuel at pump, coal for heating or electricity generation, and purchase of automobile.	1, 7-4, 10-3, 11-1, 13-4, 16-4
61	A method according to claim 53, further comprising transferring title of the emission reduction unit for offsetting at least a portion of an environmental emission.	1, 7-4, 9-3, 10-3, 13-2, 13-4, 16-4
62	<p>A method of processing environmental emissions, the method comprising:</p> <ul style="list-style-type: none"> <li>selecting a production practice yielding at least one of environmental emissions and environmental emissions removal;</li> <li>selecting a protocol sufficient for comparing the production practice to a baseline practice;</li> <li>collecting production practice data regarding the production practice responsive to the protocol;</li> <li>converting the production practice data to environmental data using pre-selected conversion factors;</li> <li>registering at least a portion of the environmental data for commercial use thereof.</li> </ul>	<p>1, 7-4, 13-4, 16-4 (All in claim 62 comply)</p> <p>9-1, 9-3, 10-3, 13-2</p> <p>8-5, 9-1, 11-2, 12-2, 13-2</p> <p>11-2, 12-1</p> <p>11-2, 12-1, 12-3, 12-4, 13-2</p> <p>12-3, 12-4</p>



# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
63	A method according to claim 62, further comprising modifying the environmental data to effective environmental data.	1, 7-4, 11-2, 12-1, 12-3, 12-4, 13-2, 13-4, 16-4
64	A method according to claim 62, wherein the production practice data collecting includes collecting commercial performance practice data including at least one of production throughput, production capacity, and animal welfare practices.	1, 7-4, 8-5 and 9-1, 11-2 and 12-1, 13-4, 14-2, 16-3, 16-4
65	A method according to claim 62, further comprising: transmitting the production practice data to a data center; and receiving the production practice data at the data center.	1, 7-4, 8-5 and 9-1, 12-1, 13-4, 14-5, 15-1, 15-2, 15-3, 16-4
66	A method according to claim 65, wherein the production practice data transmitting and receiving further includes at least one of encrypting and decrypting the production practice data, securing the data, and restricting access thereto.	Reference is herein made to priority document Provisional Patent Application S/N 60/498,992 having file date 08/29/03
67	A method according to claim 62, wherein the production practice data reporting includes at least one of comparing the production practice data to standards of performance and identifying production practice compliance through labeling.	1, 7-4, 11-2 and 12-1, 13-4, 14-2, 16-4

## EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
68	A method according to claim 66, wherein the labeling includes at least one of identifying a government approval, conferring a regulatory shield, identifying the source of conditions conferring a compliance, and identifying a source of environmental removal.	1, 7-4, 11-2 and 12-1, 13-4, 14-2, 16-4
69	A method according to claim 62, further comprising providing guidance to the producer for enhancing the production practice responsive to the production practice data.	1, 7-4, 8-1, 11-2, 12-4, 13-4, 14-2, 14-3, 16-4
70	A method according to claim 69, wherein the guidance providing includes at least one of systematically balancing product output, emptying manure containment structure more frequently, and practicing a no-till for multiple contiguous years.	1, 7-4, 8-1, 11-2, 12-4, 13-4, 14-2, 14-3, 16-4
71	A method according to claim 62, further comprising at least one of allocating a first portion of the environmental data to a reserve pool, committing a portion of the reserve pool for mitigating delivery risk, and committing a portion of the reserve pool to mitigate permanence risk.	1, 7-4, 9-3, 10-1, 10-2, 13-4, 16-4

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
72	A method according to claim 71, wherein the portion of the reserve pool includes at least one of an escrow pool and a leveraged instrument pool for backing a commercial insurance policy.	1, 7-4, 9-3, 10-1, 13-4, 16-4
73	A method according to claim 62 wherein the registering includes at least one of verifying a commercial suitability of the environmental data, recording the registering, designating ownership of the environmental data, assigning a unique identifier thereto, and monitoring a transaction thereof.	1, 7-4, 8-3, 11-2, 12-1, 12-2, 12-3, 12-4, 13-1, 13-4, 15-2, 15-3, 16-4
74	A method according to claim 73, wherein the unique identifier assigning includes at least one of a protocol related identifier, vintage, geographically referenced coordinates, specific emission reduction accounting, encryption.	1, 7-4, 12-4, 15-2, 16-4
75	A method according to claim 73, wherein the unique identifier is a serial number associated with a transaction.	1, 7-4, 12-3, 12-4, 14-2, 15-2, 16-4

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
76	A method according to claim 73, wherein the transaction monitoring includes at least one of monitoring a sale, transfer, exchange, and retirement of the environmental emission data.	1, 7-4, 9-3, 10-1, 10-3, 11-1, 11-2, 12-1, 12-4
77	A method according to claim 62, further comprising converting the environmental data to a plurality of emission reduction units and choosing a registry jurisdiction for the registering thereof.	1, 7-4, 12-3, 12-4, 14-1, 16-4
78	A method according to claim 77, further comprising selling at least a portion of the plurality of emission reduction units.	1, 7-4, 9-3, 10-1, 11-1, 13-1, 13-2, 13-4, 14-1, 16-4
79	A method according to claim 78, further comprising establishing a pool of emission reduction units and accessing the pool during a point of sale event for reducing at least a portion of the environmental emissions resulting from the point of sale event.	1, 7-4, 9-3, 10-1, 10-3, 11-1, 13-4, 16-4
80	A method according to claim 79, wherein the point of sale event is selected from a group including at least one of an airline ticket, fuel at pump, coal for heating or electricity generation, and purchase of automobile.	1, 7-4, 7-4, 10-3, 11-1, 13-4, 16-4

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
81	A method according to claim 77, further comprising transferring title of the emission reduction unit for offsetting at least a portion of an environmental emission.	1, 7-4, 9-3,10-1, 10-2, 13-4, 16-4
82	A method according to claim 81, wherein the environmental emission results from at least one of an emitter, a plurality of emitters, and a variety of emitters, and wherein the emitter is at least one of a direct emitter and an indirect emitter.	1, 7-4, 9-3,10-1, 10-2, 13-4, 16-4
83	A method according to claim 77, further comprising allocating a plurality of emission reduction units from a plurality of producers of a controlling entity for offsetting environmental emissions of the controlling entity.	1, 7-4, 10-3, 16-4

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
84	<p>A method of processing environmental emissions, the method comprising:</p> <ul style="list-style-type: none"> <li>selecting a plurality of producers having production practices yielding at least one of environmental emissions and environmental emissions removal;</li> <li>selecting at least one protocol sufficient for comparing each of the production practices to a baseline practice;</li> <li>collecting production practice data regarding the production practices responsive to the protocol;</li> <li>confirming the production practice data meets a pre-selected data standard;</li> <li>converting the production practice data to environmental data using pre-selected conversion factors; and</li> <li>registering the effective environmental data for commercial use thereof.</li> </ul>	<p>1, 7-4, 13-4,16-4 (All in claim 84 comply)</p> <p>9-1, 9-3, 10-3, 13-2</p> <p>8-5, 9-1, 11-2, 12-2, 13-2</p> <p>11-2, 12-1</p> <p>11-2, 12-1, 12-3, 12-4, 13-2</p> <p>11-2, 12-1, 12-3, 12-4, 13-2</p> <p>12-3, 12-4</p>
85	<p>A method according to claim 84, further comprising modifying the environmental data to effective environmental data.</p>	<p>1, 7-4, 11-2, 12-1, 12-3, 12-4, 13-2, 13-4,16-4</p>

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
86	A method according to claim 84, wherein the collecting comprising on-site data collecting including at least one of collecting on-site data supplied by the producer, forming an assessment team for the on-site collecting, forming an assessment team for confirming the on-site data collecting, entering the onsite data into a pre-selected template, and electronically transmitting the production practice data to a data center.	1, 7-4, 8-5 and 9-1, 12-1, 13-4, 14-5, 15-1, 15-2, 15-3, 16-4
87	A method according to claim 86, wherein the template provides for input including at least one of questions relevant to the protocol, a commercial standard, environmental compliance, non-conformance, and business needs.	1, 7-4, 8-5 and 9-1, 11-2 and 12-1, 13-4, 14-2, 14-3, 15-3, 16-2, 16-4
88	A method according to claim 87, wherein the data entering into a template further includes recording time and geographical reference information.	1, 7-4, 15-2, 16-4
89	A method according to claim 86, further comprising tracking a presence of the assessment team on the site using a GPS for enabling subsequent audit trails and reconstruction of assessment progress.	1, 7-4, 15-2, 16-4

## EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
90	A method according to claim 86, wherein the template form a part of at least one of an electronic data instrument, and wherein the electronic data instrument provides for data entry and transmission thereof.	1, 7-4, 8-5 and 9-1, 12-1, 13-4, 14-5, 15-1, 15-2, 15-3, 16-4
91	A method according to claim 86, further comprising modifying the template responsive to the onsite data collecting.	1, 7-4, 8-5 and 9-1, 12-1, 13-4, 16-1, 16-4
92	A method according to claim 84, further comprising providing guidance to the producer for enhancing the production practice responsive to the production practice data.	1, 7-4, 8-1, 11-2, 12-4, 13-4, 14-2, 14-3, 16-4
93	A method according to claim 92, wherein the guidance providing includes at least one of systematically balancing product output, emptying manure containment structure more frequently, and practicing a no-till for multiple contiguous years.	1, 7-4, 8-1, 11-2, 12-4, 13-4, 14-2, 14-3, 16-4



# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
94	A method according to claim 84, further comprising at least one of allocating a first portion of the effective environmental data to a reserve pool, committing a portion of the reserve pool for mitigating delivery risk, and committing a portion of the reserve pool to mitigate permanence risk.	1, 7-4, 9-3, 10-1, 10-2, 13-4, 16-4
95	A method according to claim 94, wherein the portion of the reserve pool includes at least one of an escrow pool and a leveraged instrument pool for backing a commercial insurance policy.	1, 7-4, 9-3, 10-1, 13-4, 16-4
96	A method according to claim 84, further comprising providing a payment to the producer for the portion of the environmental data.	1, 7-4, 13-2, 13-4, 16-4
97	A method according to claim 84 wherein the registering includes at least one of verifying a commercial suitability of the effective environmental data, recording the registering, designating ownership of the effective environmental data, assigning a unique identifier thereto, and monitoring a transaction thereof.	1, 7-4, 8-3, 11-2, 12-1, 12-2, 12-3, 12-4, 13-1, 13-4, 15-2, 15-3, 16-4

# EXHIBIT C

CLAIM #	CLAIM	SUPPORTED BY
98	A method according to claim 97, wherein the unique identifier assigning includes at least one of a protocol related identifier, vintage, geographically referenced coordinates, specific emission reduction accounting, encryption.	1, 7-4, 12-4, 15-2, 16-4
99	A method according to claim 84 wherein the converting to an emission reduction unit includes choosing a registry jurisdiction.	1, 7-4, 12-3, 12-4, 14-1, 16-4
100	A method according to claim 84, further comprising establishing a pool of environmental data and accessing the pool during a point of sale event for reducing at least a portion of environmental emissions resulting from the point of sale event.	1, 7-4, 9-3, 10-1, 10-3, 11-1, 13-4, 16-4
101	A method according to claim 100, wherein the point of sale event is selected from a group including at least one of an airline ticket, fuel at pump, coal for heating or electricity generation, and purchase of automobile.	1, 7-4, 7-4, 10-3, 11-1, 13-4, 16-4
102	A method according to claim 84, further comprising transferring title of the environmental data for offsetting at least a portion of the environmental emissions.	1, 7-4, 9-3, 10-1, 10-2, 13-4, 16-4

## EXHIBIT D

EXHIBIT D

JRNEY DOCKET NO. 31234.PR

IN THE U.S. PATENT AND TRADEMARK OFFICE  
Provisional Application Cover Sheet

ASSISTANT COMMISSIONER FOR PATENTS  
Washington, D.C. 20231

Sir:

This is a request for filing a PROVISIONAL APPLICATION under 37 CFR 1.53(c).

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TITLE OF THE INVENTION

SYSTEM AND METHOD OF CREATING, AGGREGATING, AND TRANSFERRING AGRICULTURALLY - SOURCED  
ENVIRONMENTAL EMISSION REDUCTION CREDITS

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ENCLOSED APPLICATION PARTS (check all that apply)

- ( X ) Specification *Number of Pages* 17  
( X ) Drawings *Number of Pages* 4  
( ) Additional inventors are being named on separately numbered sheets attached hereto.

METHOD OF PAYMENT

Applicant claims small entity status. See 37 CFR 1.27.

A check in the amount of \$80.00 to cover the filing fee is enclosed.

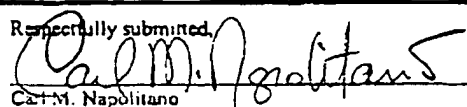
The Commissioner is hereby authorized to charge or credit any discrepancies in fee amounts to Deposit Account No. 01-0484.

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Date of Deposit: November 26, 2002

I hereby certify that this is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Respectfully submitted,

  
Carl M. Napolitano  
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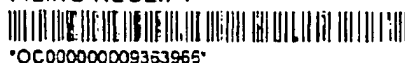
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APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	DRAWINGS	TOT CLAIMS	IND CLAIMS
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CONFIRMATION NO. 5184

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## FILING RECEIPT



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Date Mailed: 01/13/2003

Receipt is acknowledged of this provisional Patent Application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

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Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No

\*\* SMALL ENTITY \*\*

## Title

System and method of creating, aggregating, and transferring agriculturally - sourced  
environmental emission reduction credits

LICENSE FOR FOREIGN FILING UNDER

# SYSTEM AND METHOD OF CREATING, AGGREGATING, AND TRANSFERRING AGRICULTURALLY - SOURCED ENVIRONMENTAL EMISSION REDUCTION CREDITS

## Summary

The present invention includes a System, comprised of business methods and processes, which may comprise the following:

- Collecting and assessing information about the agricultural production practices performed by individual farms, or systems (of farms), that can be further processed to create and quantify on-site environmental emission reductions, including greenhouse gas (GHG) emission reductions;
- Creating/quantifying on-site environmental emission reductions pursuant to algorithms that serve as the basis for protocols;
- Aggregating, and take title to, an arbitrarily large supply of environmental emission reductions that are created by processing the gathered information according to various algorithms/protocols;
- Registering on-site emission reductions, as required, to promote data "transparency" and to convert the on-site emission reductions to environmental emission reduction credits (ERCs) or "offsets" (for GHG ERCs, measured in tons CO<sub>2</sub>equivalent or tons CO<sub>2</sub>e or other useful units); by so doing, enabling the ready verification of parameters such as ERC provenance (source, creation methodology, certification standards, etc.), permanence, additionality, leakage, retirement, title/ownership, etc.;
- Working with outside providers to develop and provide associated risk mitigation instruments, bank loan tools, and other risk or financial tools/instruments that may be useful to enable the sale of ERCs.
- Selling – using direct and indirect channels - ERCs/offsets, derivative instruments, futures contracts and other data-derived products to individuals, businesses, or consortia that desire to purchase them.
- Providing Agriculture with a new revenue stream that results from the sale of agriculturally sourced ERCs.

This system makes it possible for Agriculture, by practicing specific methodologies and protocols, to create and deliver a large number of high quality, quantified and verified, cost-effective, renewable environmental (including GHG) emission reductions (and associated ERCs) that can be used to satisfy various global climate change requirements/legislation.

### Background

A scientific consensus is emerging that greenhouse gases (or "GHGs") – carbon dioxide and other heat-trapping emissions released by electric power plants, heavy industry, and transportation – are causing worldwide temperatures to rise, which is being linked to a wide range of environmental impacts including rising sea levels, reduced harvests and regional floods or droughts.

Policy makers face a seemingly insurmountable dilemma: continuing economic growth/recovery requires expanded energy production and economic output, which leads directly to increased GHG emissions levels – but environmentalists, led by global warming activists – are clamoring for definitive actions to reduce GHG emissions and for a greener environment.

Recent worldwide legislative responses, including the Bush Administration's Climate Change Initiative, the high-profile UNFCCC process of Rio, Kyoto, and The Hague (resulting in the Kyoto Accords), and a huge body of both national and sub-national GHG and climate change policy, haven't solved this quandary.

The problem is acute; solutions that mandate energy caps will lead to a head-on collision with industry and may have grave economic consequences; but the GHG "problem" is big. Existing legislation/accords contemplate worldwide reductions of roughly 2 billion tons (of CO<sub>2</sub> equivalent) annually; furthermore, to stabilize the

atmosphere at scientifically *recommended* CO<sub>2</sub> levels will require worldwide reductions exceeding 10 billion tons per year.

*The New York Times* recently reported that a large German insurance company, German Re, has estimated that global warming could cost \$300 Billion annually by 2050 in weather damage, pollution, industrial and agricultural losses and other expenses. Moreover, some experts in corporate governance warn that companies – and their officers – could be held accountable for failing to protect their companies from climate-related risk, and the lawsuits could come from governments as well as investors and other aggrieved parties. *The New York Times* notes that Swiss Re, a large reinsurance company, is reviewing its insurance clients to determine whether they are managing climate change risk, and is considering excluding from coverage those companies or directors that are not addressing this issue.

GHG reductions can be achieved through costly abatement techniques (such as installing smokestack scrubbers or by making widespread capital upgrades), by enhancing or eliminating industrial operations that generate significant GHG emissions (future technology is likely to manifest more efficient operations), or by a variety of sequestration techniques that “fix” carbon from the atmosphere. Techniques which avoid the production of GHG emissions or that sequester carbon in a way that makes it unavailable to the atmosphere (either technique must be measurable and verifiable and compared to an established baseline), can be used to create GHG Emission Reduction Credits (ERCs).

Industry needs an effective, inexpensive, and reliable means to offset GHG emissions for the next 30 years or more, until emerging processes and new capital hardware “catch up” to the emissions problem. What is more, to be economically sustainable, the solution(s) will require that large buyers (such as utilities) have a ready, reliable, long-term access to a large aggregated supply of credits (Some regulations contemplate mechanisms for “banking” ERCs against future need. Large buyers, including electric



utilities and heavy industry, have ongoing year-to-year needs that can be met via banked ERCs or by establishing a reliable annual supply of ERCs.).

Yet "easily generated" industrial abatement and avoidance credits are nowhere near sufficient to supply the worldwide demand created by regulations/legislation. What's more, as British Petroleum has recently demonstrated, aggressive reductions are *expensive*. B.P. notes in their corporate website that their 2001 internal GHG emission reduction costs averaged \$39.63/ton CO<sub>2</sub> equivalent.

Unfortunately, traditional GHG ERC sources – forestry, deep injection of CO<sub>2</sub> into oil shale or aquifers, and various green power technologies, for instance – produce only limited quantities of GHG emission reduction credits or (like abatement techniques) are unreasonably expensive. Moreover, historically, many of these credits have been unverified and are often "unverifiable." With regards to reforestation or afforestation, for example, assuming a one-third ton per acre carbon potential, the purchase of one 100,000-ton lot of carbon mitigation credits would require assembling, monitoring, and verifying performance across 300,000 acres or about 500 square miles. Monitoring a large forest landmass (to aggregate a reasonable quantity of emission reduction credits) often requires dealing with multiple landowners. Additionally, current thinking on the subject of "additionality" requires *new plantings* (rather than standing forests) to qualify for carbon emission reduction credits.

Agriculture, on the other hand, especially as practiced in North America, has the potential to become one of the largest and most concentrated sources of quantified high-quality, verifiable GHG emission reductions (and ERCs) worldwide. As is widely known, Agriculture is a relatively low-intensity GHG emitter - now responsible for some 7% of GHG emissions - and offers tremendous potential for both GHG emission avoidance and carbon sequestration. This potential comes about because of North America's unique combination of concentrated bio-mass (concentrated animal feeding operations), production practices, and large arable landmass that is available for

sequestration. By practicing specific protocols, North American Agriculture has the potential to annually generate up to several 100's of millions of tons of ERCs. What is more, practicing these protocols will naturally result in a high degree of compliance with existing Clean Air Act and Clean Water Act requirements (the converse is not true – simply meeting existing environmental legislation fails the test of “additionality” towards creating GHG ERCs).

Further complicating the process of creating, aggregating and transferring (selling) environmental emission reductions (and ERCs), however, no formal standards have been promulgated to specify these steps. Until the recent past, for instance, a putative purchaser of credits and a “qualified” supplier of credits worked together on an ad hoc basis, mutually defining the characteristics of a particular ERC supply contract. The ERCs were created to mutually determined (private) standards, were sometimes inspected/verified by 3<sup>rd</sup> party agencies, such as environmental engineers, environmentalists, or accounting firms, and were privately exchanged. These trades were executed on a project-by-project basis, and were often shrouded in secrecy – unless the buyer desired to publicize the event to garner positive Public Relations value. A number of forestation GHG ERC contracts, and intra-company (division to division) GHG ERC exchanges have been made in this manner.

Even early attempts to generate agriculturally sourced GHG ERCs fell under this rubric. For instance, C-Quest is known to have utilized privately derived protocols to “create” ERCs, titles to which were held by the individual production system, which were then sold to a Canadian electric utility company. C-Quest was only able to close one sale and deliver ERCs; difficulties with their system made it difficult (if not impossible) to consummate other transactions. C-Quest's system was also limited in scope – it was based upon only two protocols (of which only one was used; a specific methane avoidance protocol) - and made no allowance or consideration for other ERC creation mechanisms, such as other avoidance protocols, other sequestration techniques, afforestation, green power generation modalities, etc. Such factors have precluded

Agriculture from becoming a considered source for high quality GHG ERCs. As is true with many other "project based" vehicles, C-Quest's system lacked overarching quality assurance or verification provisions.

It is worth noting that the much-publicized Kyoto Protocol (Article 3) requires Annex B ("industrialized") countries to reduce GHG emissions (in the aggregate) by at least 5% *below* 1990 reference levels in the period 2008-2012. Moreover, the Protocol also establishes various "Flexibility Mechanisms" to allow Annex B countries to meet their reduction commitments, including: project based trades, emissions trading, and in-country actions that can result in the domestic supply of GHG credits.

The Kyoto Accords, then – like most regional and sub-national climate change legislation – establishes reference baselines, against which emissions levels can be specified. It does not, however, unambiguously specify how to qualify/quantify GHG ERCs, registration mechanisms and standards, etc.

Moreover, the language specifying trades between signatory and non-signatory countries is ambiguous. While GHG ERCs may be created and verified using the exact same methodologies in two different countries, it is possible that they will not be treated equally with respect to satisfying Kyoto requirements or for their perceived commercial "value."

C-Quest's effort underscores that a "system" has to deal with a wide range of elements to be successful. The issues are complex. Individual agricultural production operations, for instance, have limited GHG ERC creation/generation capacity; typically, individual sites produce too small a quantity to be economically useful to large purchasers of ERCs. In addition, entities who "need" large quantities of GHG ERCs have to be concerned with a number of issues pertaining to aggregating a substantial quantity of ERCs, such as: contracts and pricing standardization, title/ownership conveyance issues, quality assurance issues (statistical error bounding, data permanency and

verification, etc.), additionality, leakage, ERC registration and retirement, risk mitigation, and more. While dealing with an agricultural "system" (comprised of many individual producers) enables aggregating a larger number of emission reductions (and associated ERCs), it does not inherently solve these other problems. Historically, large purchasers of ERCs have been unwilling to assume the overhead associated with addressing all these issues, one reason Agriculture has been little used to generate GHG ERCs.

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In the past, systems for creating/supplying ERCs have also typically lacked adequate quality assurance provisions. For instance, even for those trades that impose some level of quality control – such as site audits or data verification – no means has been used (beyond the integrity/certification of the company or individual auditor, that is) to actually prove that a site audit took place. In many instances records are paper based, and in remaining instances electronic records include no provisions for time/location "stamping" to confirm when/where an audit took place.

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#### General Description

In view of the foregoing background, the present invention enables Agriculture to become a significant and regarded source of high quality, cost effective, verifiable, renewable environmental emission reductions (and associated emission reduction credits (ERCs)) that can be used to offset climate change emission reduction commitments (including voluntary commitments), regulations, and legislation. While the invention will have particular value in North America, it can fulfill the same/similar function in other locations around the world.

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In addition, the present invention provides an integrated, holistic system – known as the AgCert™ System – that enables the creation, aggregation, registration, storage, sale, and retirement of all agriculturally-sourced GHG emission reductions (and associated ERCs) – whether derived from GHG avoidance techniques, carbon sequestration, green power generation, or other sources.

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Moreover, embodiments of the invention establish business methods and practices that include defining a reference standard against which all non-agricultural sources of environmental emission reduction sources can be measured.

} 1

Further, the present invention may utilize Government certified algorithms, protocols, and methodologies as the basis for creating/generating ERCs via the AgCert™ System.

} 2

Further, the present invention may establish that GHG ERCs created using the AgCert™ System will satisfy the Marrakesh Accords for Joint Implementation.

} 3

Further, the present invention may establish and satisfy applicable equivalency mechanisms so that ERCs created/generated via the AgCert™ System in one location are recognized to be exactly equivalent to ERCs created/generated via the AgCert™ System in another location – even if one of these locations is a Kyoto signatory country and another location is not.

} 4

Embodiments of the present invention, herein described by way of example, develop and establish by way of an existing research and development effort and may include:

- Methods and other technology needed to standardize and certify the qualitative and quantitative value and volume of Greenhouse Gas (such as carbon dioxide, methane, and nitrous oxide) and/or equivalent compounds avoided or sequestered in the process of agricultural production;
- Scientifically based algorithms and/or protocols that can be implemented to standardize and provide standard(s) of certification for the qualitative and quantitative value and volume of GHG and/or equivalent compounds avoided or sequestered in the process of agricultural production; and
- The procedures and guidelines defining the development of Whole Farm Agricultural Environmental Management Compliance Plans, utilizing government-

} 5

developed methods and technology. This Plan will contemplate the quantification and "capture" of emission reductions from all applicable Agricultural sources, including but not limited to:

*Covers each  
of:  
Abatement,  
Avoidance,  
And  
Sequestration*

- o GHG emission avoidance techniques;
- o Carbon sequestration techniques;
- o Nutrient management;
- o Tillage practices;
- o Wind breaks;
- o Riparian buffer strips;
- o Tree farming and afforestation;
- o Grasslands management;
- o Wetlands management;
- o Silvopasture;
- o Agroforestry;
- o Bio-digesters and/or "green" power generation; and
- o Cropping and soil data, including crops under Government cultivation.

1

Another embodiment may, by way of example, develop the present invention through an existing research and development effort to devise agricultural performance baselines for environmental emissions and emission reductions that can be used to establish an incentive-based cap and trade (emissions offset) program.

2

Yet another embodiment enables AgCert to aggregate an arbitrarily large quantity of on-site GHG emission reductions (and associated ERCs) that are created/generated via the AgCert™ System, and to hold original title/ownership to these emission reductions/ERCs to:

3

- Enable large purchasers of ERCs to enjoy the benefits of:
  - o "One stop shopping" – that is, making it possible for purchasers to reliably and readily acquire as many credits as they need/desire;
  - o Multi-year credit acquisitions – using either "banked" credits or renewably created credits;

- o Standardized pricing and contracts structures (that come about as a result of purchasing all the credits they need from a single supplier);
  - o Option or sell-forward contracts and/or financial derivative instruments
- Reduce the statistical errors associated with quantifying small quantities of on-site GHG emission reductions; and
- Enable the development of risk mitigation mechanisms, including insurance policies;

1

all of which require a large aggregated supply of on-farm GHG emission reductions (and associated ERCs) created via the AgCen™ System.

2

Yet another embodiment establishes means to devise various closed loop systems, including:

- Enabling producers to apply emission reductions (and associated ERCs), created by one or more production practices in their system, to offset point source emitters within their system(s);
- By way of similar example, linking one or more agricultural systems, each comprised of at least one farm, to specific local operations, including industrial and manufacturing operations; in this way making it possible to apply emissions reductions (and associated ERCs) created by the actions of the one or more agricultural producers to offset point source emissions associated with the linked operation. As an example, such linkage may be by way of formal or informal internal supply agreements. Examples of such an internal supply system include utilizing agricultural emission reductions to offset point source emissions from an ethanol plant, a plant producing either sucrose or fructose, or from industrial plants producing tractors or trucks.
- Creating "emission neutral" or "emission superior" products, whether branded or not, wherein the environmental emissions associated with the item's production, manufacture, or use is offset (or more than offset, in the case of "emission superior" products) by corresponding emission reductions (and associated

3

ERCs) created by the production practices of contractually linked agricultural producers. Examples include:

- o "Emissions neutral" airline tickets;
- o "Emissions neutral" heavy industrial items, such as cars, trucks, or tractors;
- o "Emissions neutral" electricity;
- o "Emissions neutral" food
- In yet another embodiment of the invention, means provide for consumers to "pay" to offset the environmental emissions associated with an item's production, manufacture, or use of by paying for associated emission reductions, even when such linkage has not been established a priori by the manufacturer or provider of the service/product(s).
- Yet another embodiment, by way of example, establishes a "fund" or investment vehicle enabling consumers or companies to contract for the creation of an arbitrarily large aggregated pool of agricultural emission reductions (and associated ERCs), and to apply them – or sell them - to offset various point source emitters.
- Supplying an agricultural producer's power needs, partly or wholly, by linking on-site (or within system) "green energy" or "alternative energy" generation with energy usage. By way of this example, to capture all eligible credits, including emission reductions and associated ERCs, associated with an internal power generation system. Exemplar power systems include wind turbines, solar power, and methane generation/use.

1

Yet another embodiment of the present invention establishes an overarching quality assurance program/approach and philosophy that wraps around the entire AgCert™ System, to ensure objectivity, consistent data quality, and consistent operational methodologies. To this end, the AgCert™ System may:

- Establish both internal and external QA programs based upon applicable national and international standards, including ANSI and/or ISO standards;

2



- Utilize 3<sup>rd</sup> party assessors and auditors to perform on-site assessments/audits to assess/analyze on-farm production practices; and
- Establish mandatory training/retraining/certification programs for AgCert's (internal and 3<sup>rd</sup> party) assessors and auditors to establish:
  - Minimum professional competency standards;
  - Familiarity with most current protocols and inspection methodologies;
  - Familiarity with all prerequisite data gathering/certification tools/equipment;
  - Consistent reporting and documentation standards

1

Further, the present invention establishes means to develop additional assessment and audit techniques to evaluate and quantify environmental emissions performance, including baselines, which arise from new technologies, agricultural production practices, or State, Federal, or local legislation. By way of further example, the present invention contemplates incorporating such new baselines, practices, services and/or techniques into Whole Farm Agricultural Environmental Management Compliance Plans.

2

Embodiments of the present invention establish means for registering quantified agricultural emission reductions, including GHG emission reductions, with existing or future Registries (that deal with environmental emission reductions) in a manner consistent with:

3

- Existing Registry data/tracking requirements (U.S. Department of Energy's 1605B requirements, for instance);
- Establishing the provenance, title/ownership, permanence, additionality, leakage, and retirement of the quantified emission reductions;
- Establishing data transparency with respect to ERC creation methodologies, source, aging, etc.

4

Yet other embodiments of the present invention establish means for selling data-derived products, including emission reductions, ERCs, and other products, domestically and around the world.

1

Yet another embodiment of the invention establish means for paying farmers to comply with specific protocols whose practice(s) enable(s) the creation and quantification of emission reductions (and associated ERCs), thereby creating for Agriculture a new form of revenue.

2

### Description of the Drawings

A preferred embodiment of the invention is described, by way of example, with reference to the accompanying drawings, in which:

3

FIG. 1 is a functional block diagram of an exemplary system – known as the AgCert™ System – depicting required and optional elements of the Invention, including inputs, outputs, data-flows, feedback loops, and activities. This exemplary system includes specific elements which have never before been included in a business system dedicated to creating and selling environmental emission reductions or GHG ERCs, including: U.S. Government certified algorithms and protocols, an overarching quality assurance system including a rigorous 3<sup>rd</sup> party assessment/audit process, a consideration of applicable environmental legislation that may affect an agricultural system's GHG emission reduction baseline, and an optional feedback loop providing services/feedback to an agricultural system to enable more complete system-wide compliance with specific standards, protocols, and methodologies. In this exemplary embodiment, AgCert owns title to the quantified on-site emission reductions (and the resultant ERCs), even when aggregated from an agricultural system comprised of multiple operating units. An optional trading platform, such as the Chicago Mercantile Exchange, is shown in relation to the AgCert™ System to exemplify where such a platform would interact with the AgCert™ System. Quantified emission reductions may

4

be sold directly ("project transactions") to buyers or may first be registered in one or more Registries.

1

FIG. 2 is a flow chart of an exemplary method for performing on-site assessments and data collection, management, and analysis. It depicts a methodology for interacting with agricultural systems, which are comprised of one or multiple farms/locations, to establish system-wide GHG on-farm emission reduction baselines and system-wide GHG on-farm emission reduction creation/generation capacity. This exemplary method includes scheduling, on-site visits and data collection, data analysis, and reporting.

2

FIG. 3 is a more detailed flow chart of an exemplary subroutine used in the method of FIG. 2 for collecting data and performing regular system audits. In addition to the methodologies depicted in FIG. 2, this flow chart depicts quality assurance tests, including tolerance checks, to test/qualify the GHG on-farm emission reductions quantification process. Out of tolerance conditions result in notification of the agricultural system and may also result in subsequent (repeat) audit(s).

3

#### Brief Description of Preferred Embodiments

The present invention will now be described more fully with reference to the accompanying drawings in which preferred embodiments of the invention are shown and described. It is to be understood that the invention may be embodied in many different forms and should not be construed as limited to the illustrated embodiments set forth herein. Rather, these embodiments are provided so that this disclosure will be thorough and complete, and will convey the scope of the invention to those skilled in the art.

4

In one embodiment, the AgCert™ System, as depicted in Figures 1 through 3, utilizes a variety of electronic devices, including but not limited to: PDAs, electronic tablets, digital cameras, digital voice recorders, communications modules (such as modems and

5

wireless communications technologies), Global Positioning System (GPS) equipment/modules, electronic "diagnostic" equipment (such as pH meters, or equipment including "electronic tongues" or "electronic noses" that can automatically detect and/or quantify the presence of one or more specific substances in either air, water, or soil), or a device/system that combines one or more of these functions into a single functional assembly, to capture/record and/or communicate on-site assessment/audit information. This feature of the invention distinguishes over the existing art by:

1

- Eliminating the use of paper based records with the associated data conversion errors associated with converting these records to electronic form;
- Eliminating the use of paper based records with the associated benefit of safeguarding data permanence;
- Providing the possibility, when GPS technology is used, of providing real-time location/time "stamping" as part of the electronic data record, to provide concrete verification of the time/location and by inference (when combined with other data inputs, such as assessment answers, voice, or electronic handwriting notes), the actual assessment/audit activities/actions of the auditor.

2

The AgCert™ System, as depicted in Figures 1 through 3 by way of example, may use electronic "PC like" devices, such as PDAs, electronic tablets, or laptop PCs, with other functional assemblies/modules, in conjunction with an open and dynamic database architecture and templating methodology, to create interactive questionnaires to enable on-site assessments or audits. It is a feature of this system that it enables assessors/auditors to create new types of data records/fields (not already contemplated by existing templates) on a real-time basis and for such data records to be incorporated into future templates. These data records/fields include structured questions/answers and other types of records or associated tags such as handwritten tablet notes, digitized voice records, and digital imagery. It is optionally a feature of this system that it enables assessors/auditors to record data that is contextually linked to other pre-assessment or

3

pre-audit (ingressed) data, such as USGS, BLM, or CGIAR soil maps, topo maps, cropping maps, nutrient application maps, overhead imagery, etc.

1

The AgCert™ System, as depicted in Figures 1 through 3 by way of example, may be used to document agricultural system compliance with applicable regulatory and/or commercial standards of performance, and to confer a "regulatory shield" to those systems/operations/farms that meet or exceed established performance requirements.

2

Further, the AgCert™ System, as depicted in Figures 1 through 3 by way of example, may be used to qualify agricultural systems/operations/farms for cost share assistance for a range of actions/services, including:

3

- On-site assessments and audits;
- Environmental management services/practices;
- GHG management services/practices.

In yet another embodiment, the AgCert™ System, as depicted in Figures 1 through 3 by way of example, may be used to create, aggregate, register, store, sell, and retire other forms of agriculturally-sourced environmental emission reductions (and associated ERCs).

4

It is to be understood that even though numerous characteristics and advantages of the present invention have been set forth, many modifications and other embodiments of the invention will come to the mind of one skilled in the art now having the benefit of the teachings presented in the foregoing descriptions and associated drawings. Therefore, the invention is not to be limited to the specific embodiments disclosed, and modifications and embodiments are intended to be included within the scope of claims supported by this disclosure.

5

Comments regarding FIG 1A & FIG 1B, which follow:

These two figures should be overlaid to create a single large drawing. Certain elements are common to both FIG 1A and FIG 1B with unique elements to either side.

Anywhere this document refers to FIG 1; by reference it refers to the *composite* of both FIG 1A and FIG 1B.

The bracket at the bottom of FIG 1A and FIG 1B is meant to encompass the entire AgCert™ System.

## VU GRAPH PRESENTATION

The following descriptive material is supported by the above disclosure and is herein presented to more fully describe embodiments of this invention.

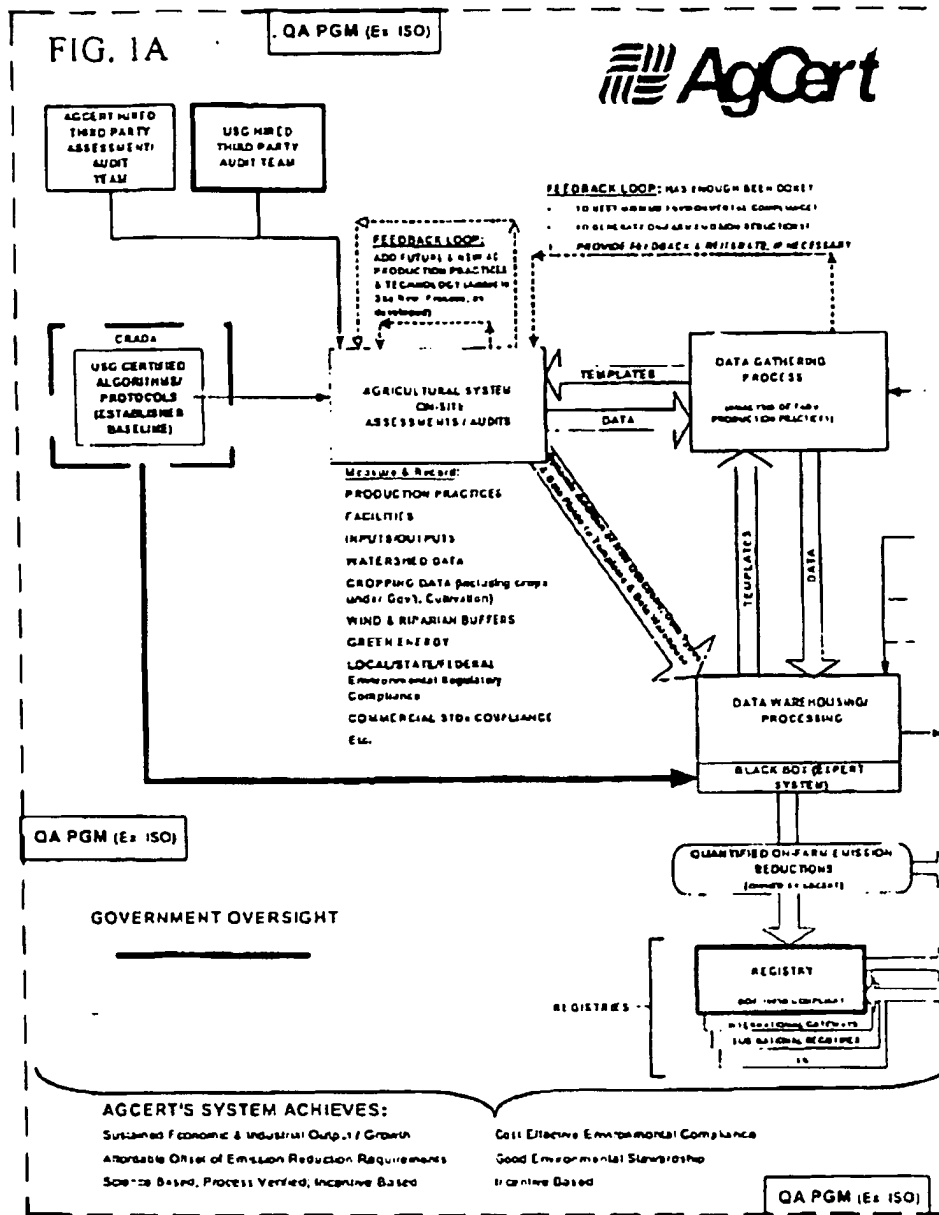






FIG. 2

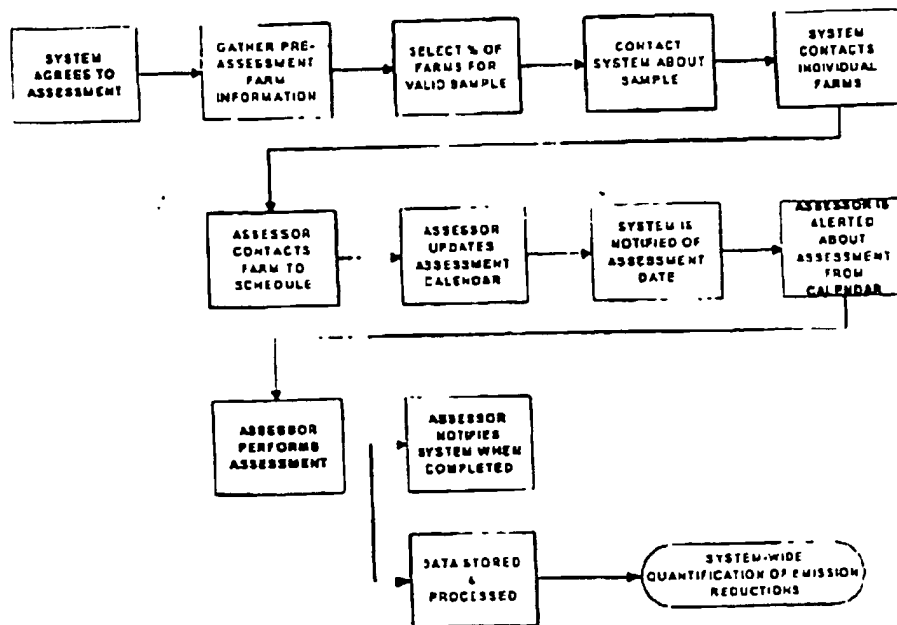
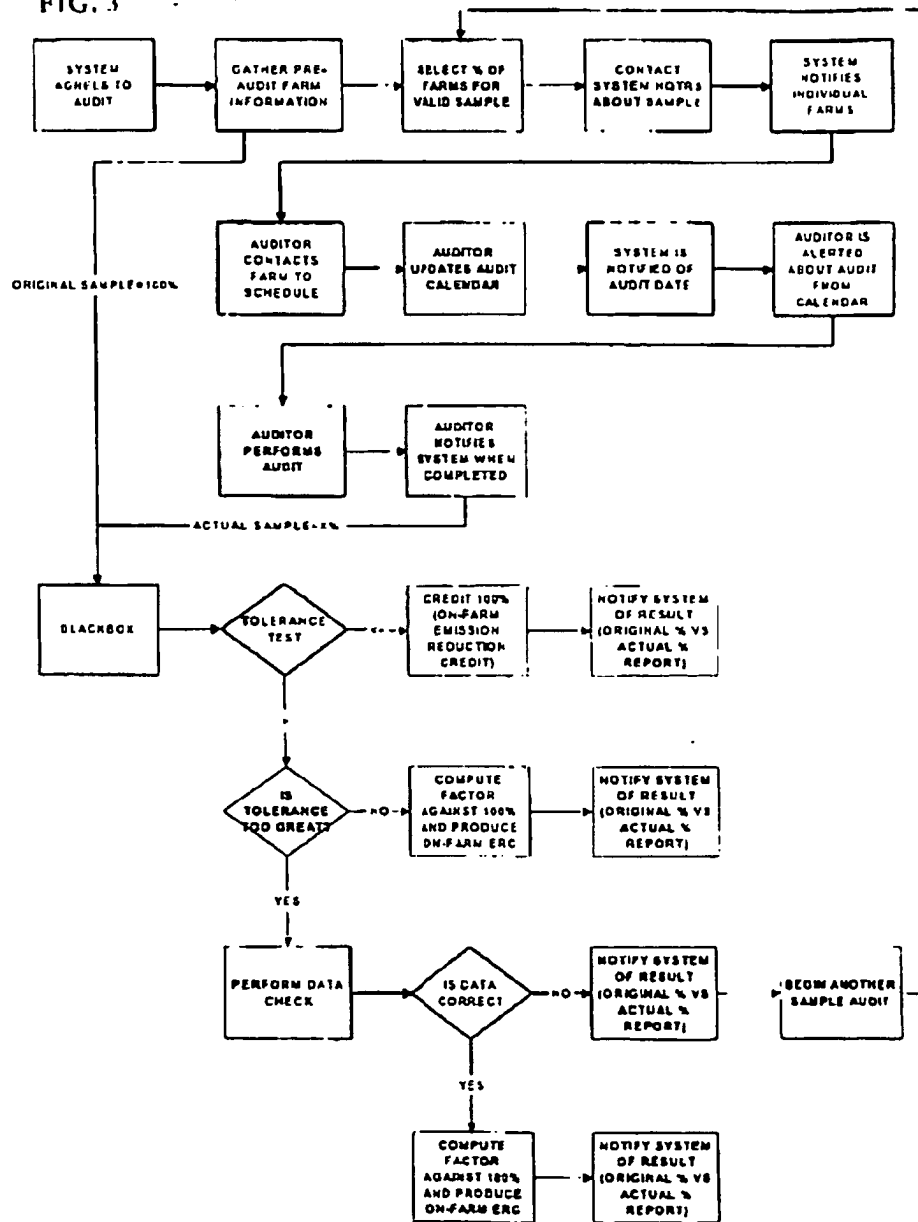


FIG. 3



## EXHIBIT E



# AgCert International

Data Management

SafeCert™

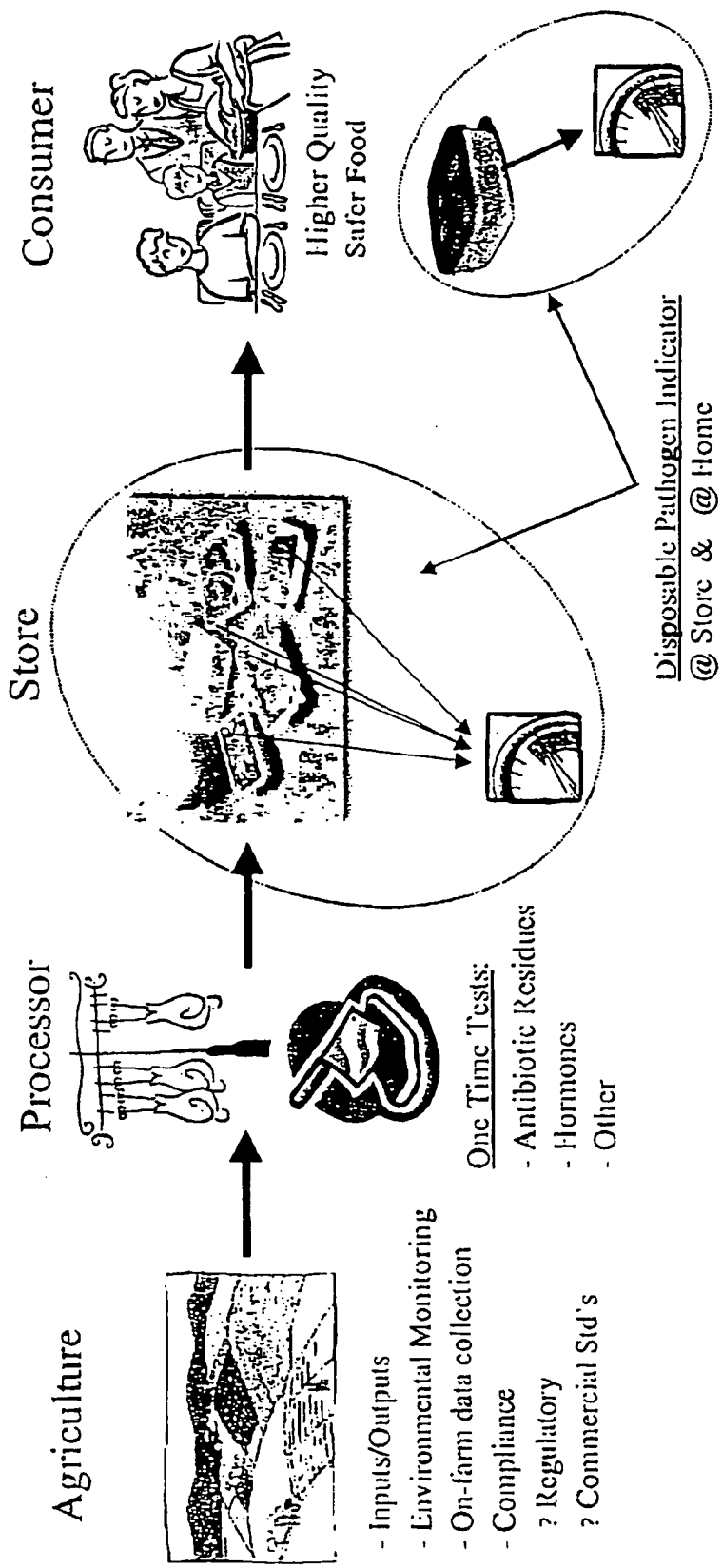
EnviroCert™



Assurance    Animal Welfare    Competitive Advantage    Certification    Environmental Compliance

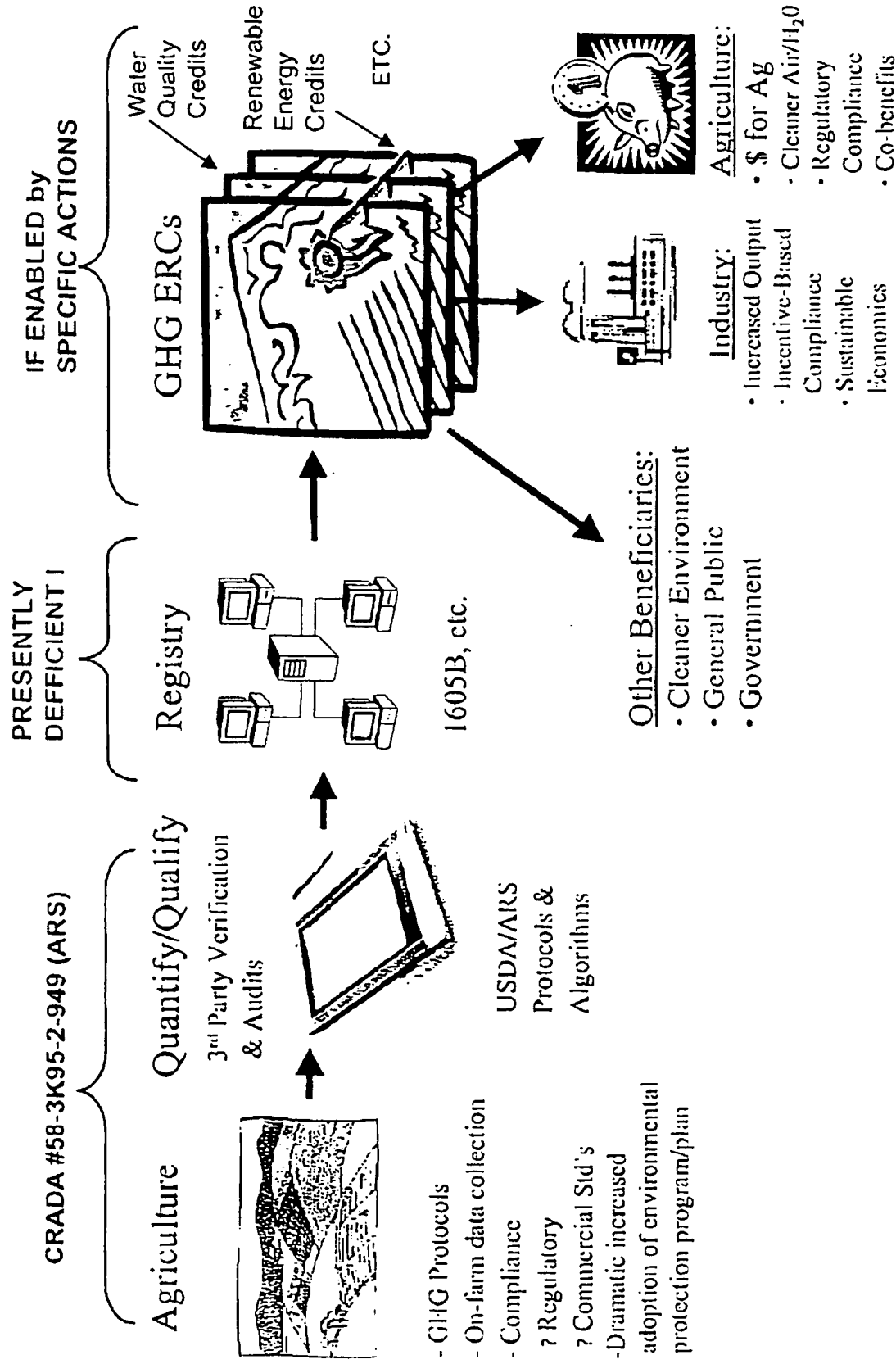


# Food Safety/Quality - SafeCert™



**Traceability / Verification**  
(Data from each phase)

# Environmental - CarbonCert™



# CRADA



- CRADA 58-3K95-2-949, entitled "Development of Greenhouse Gas Algorithms for Agricultural Systems" between AgCert & ARS
- Phase 1:  
Provides research, data and other resources to develop and evaluate methods and technology needed to standardize/certify the qualitative and quantitative value and volume of Greenhouse Gas (carbon dioxide, methane, and nitrous oxide) and/or equivalent compounds avoided, mitigated or sequestered through various agricultural production practices
- Phase 2:  
Undertakes a holistic examination of agricultural production systems to maximize both GHG emission reductions and various co-benefits (including cleaner air and water). Develops the procedures & guidelines for Whole Farm Agricultural Environmental Management Compliance Plan, utilizing the ARS-developed methods and technology.
- CRADA addresses ALL agricultural verticals, sectors, and geographic locations

**CREATING THE SCIENCE**

**CREATING APPLICATIONS**

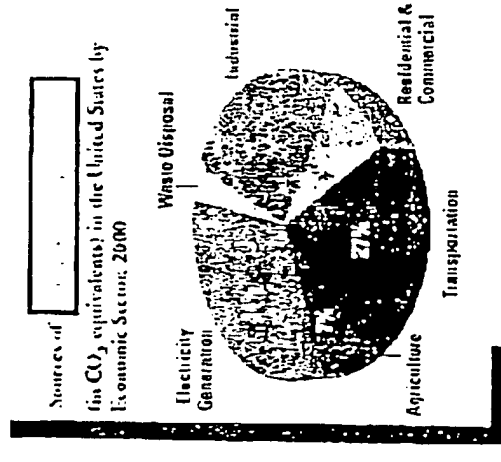


# U.S. Agriculture and GHG Reductions



U.S. Agriculture Has TREMENDOUS Potential to Help Solve the Worldwide GHG Problem...

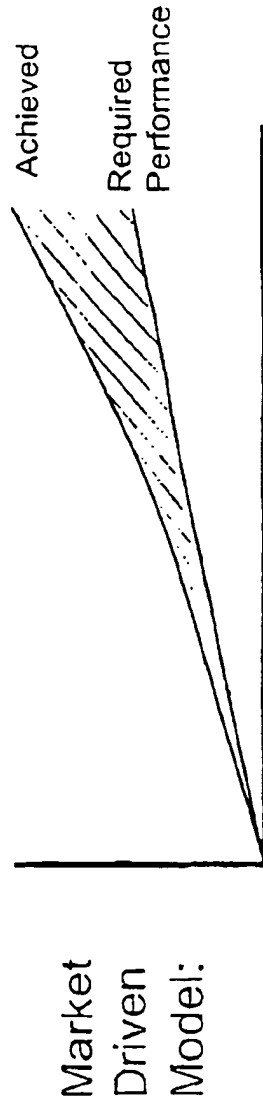
- Minimal Greenhouse Gas emitter ( $\approx 7\%$ )
- One of world's largest potential suppliers of GHG reductions
  - Concentrated biomass (CAFOs)
  - Large arable landmass
  - Potential to realize GHG improvement from multiple practices within a system
  - Capable of generating a large, predictable, renewable supply – important to large buyers; reduces errors; minimizes risks



## ...U.S. Agriculture and GHG Reductions (cont.)

U.S. Agriculture Has TREMENDOUS Potential to Help Solve the Worldwide GHG Problem...

- GHG driven production practice changes will have profound positive impact on environment (numerous co-benefits)
  - GHG emission reductions can become a significant new revenue source for Agriculture
  - Dramatically increased adoption of environmental protection program/plan
  - Measurable, verifiable data
  - Cleaner air & water



# What Elements are Necessary to Create the "Gold Standard" Ag GHG ERC ?

	<u>HOW?</u>
• Sound Science	CRADA
• Baseline(s)	USG
• Database: robust, transparent, geo-referenced	AgCert System
• Rigorous Quality Assurance/ISO	AgCert System
• Agriculture Incentives	
<ul style="list-style-type: none"> <li>– Market driven</li> <li>– Sustainable economics</li> <li>– Regulatory compliance                             <ul style="list-style-type: none"> <li>• Reduced risk</li> <li>• Preferred loan/insurance rates</li> </ul> </li> </ul>	USDA & AgCert
• ERC trading mechanisms	MISSING!
<ul style="list-style-type: none"> <li>– Registry</li> </ul>	

# Progressive application of technologies & processes

## Manure Management

Open Air



Contained Structure



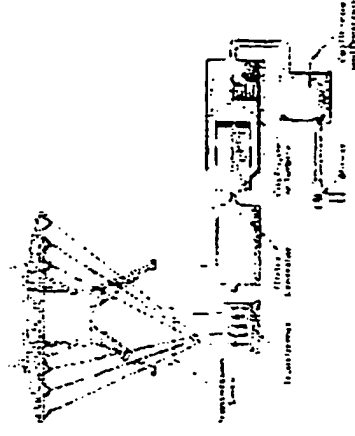
OR



Digester



Electric Generation



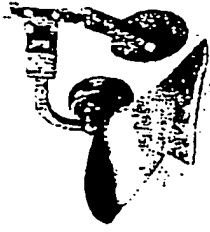
OR



# Progressive application of technologies & processes

## Tillage

Invasive



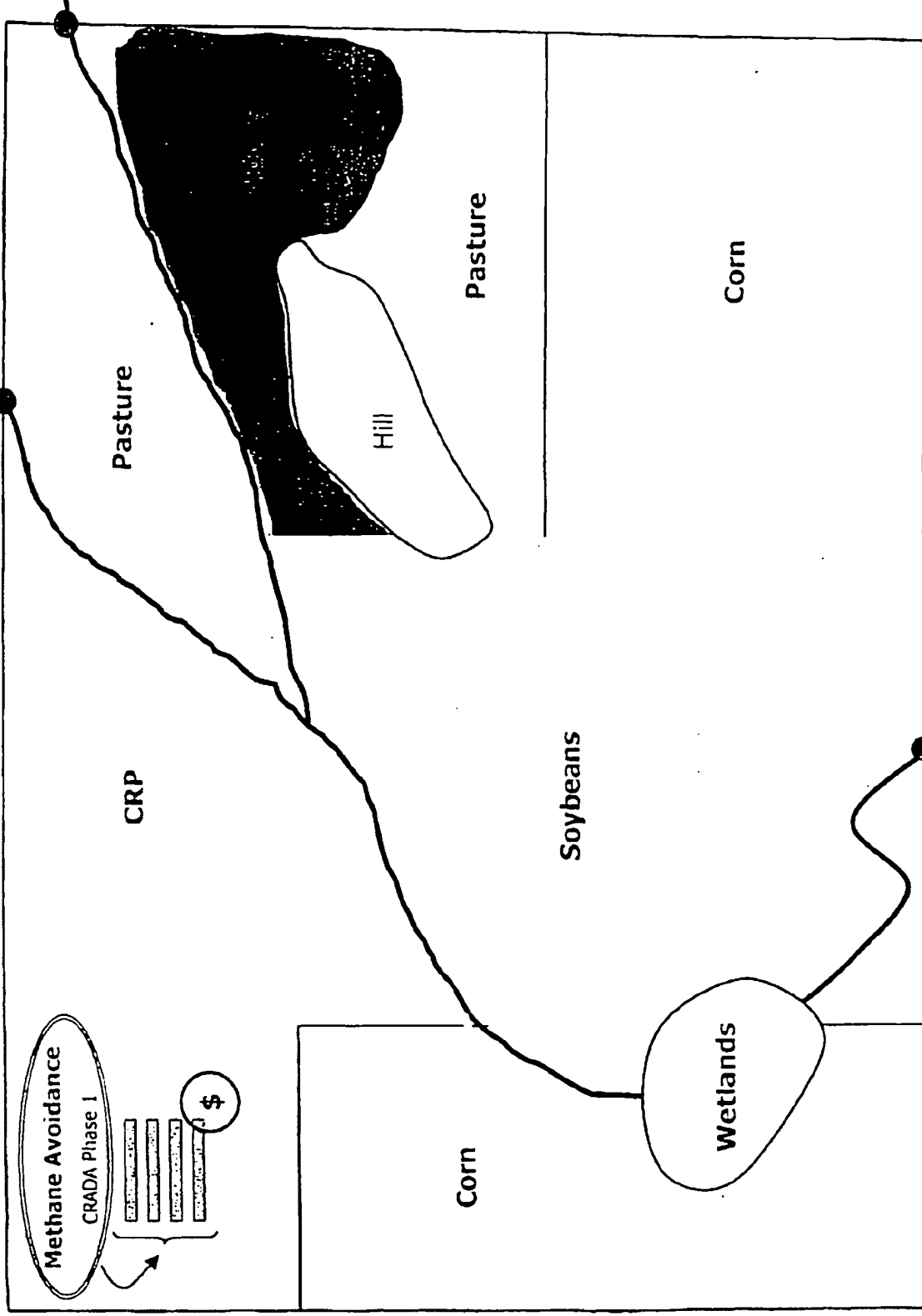
Minimum Till



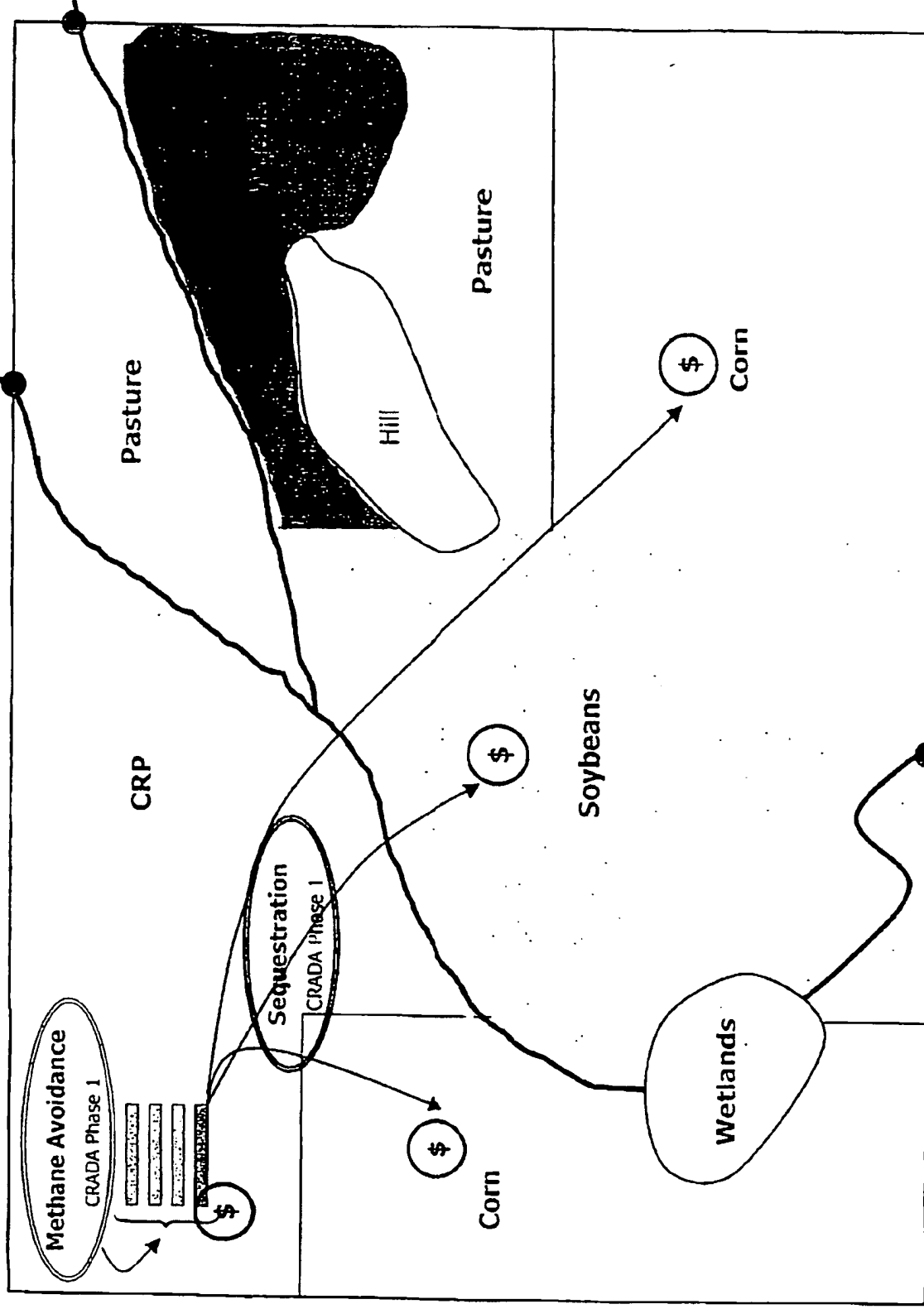
No Till



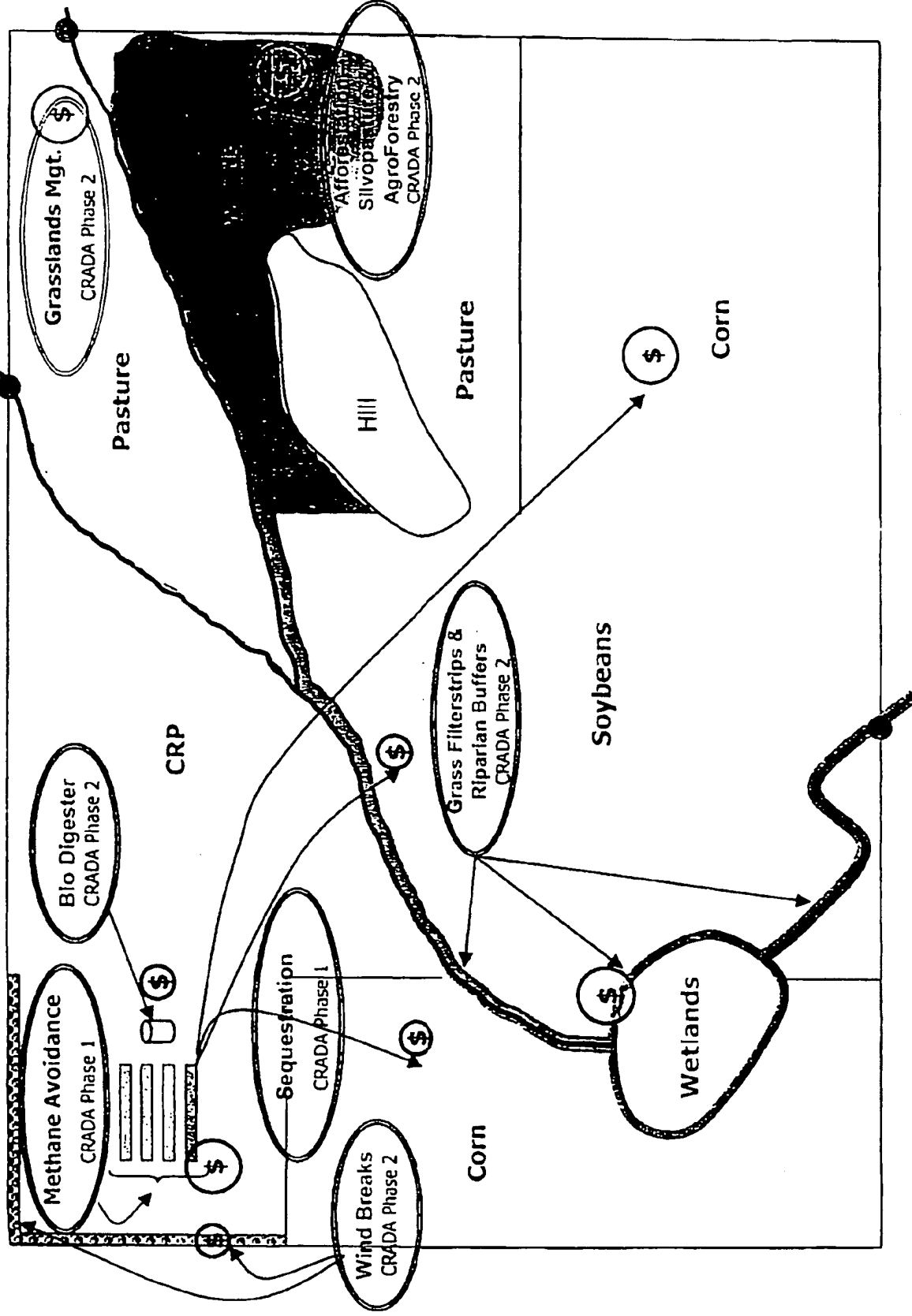
# Phased Approach to GHG Emission Reductions



# Phased Approach to GHG Emission Reductions

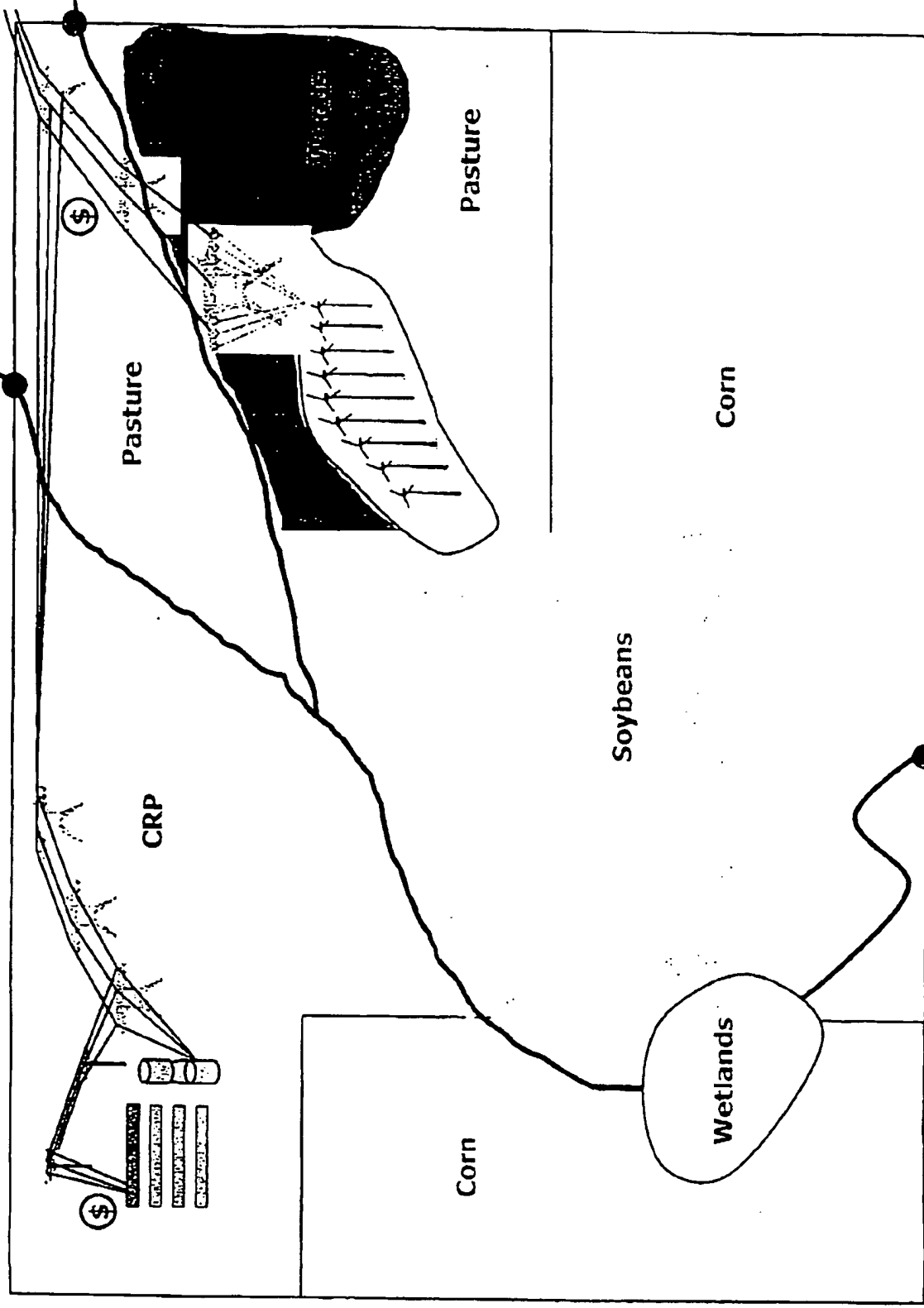


# Phased Approach to GHG Emission Reductions





# Green Power & GHG Emission Reductions



# Calculations, 640 acre farm



Typical Farm Land Use, 640 acres, Corn Belt:			
<u>Usage</u>	<u>Percentage</u>	<u>Acres</u>	
Crops	53.4%	341.76	<div> ~ 260 cows  ~ 5630 pigs </div>
CRP	6.6%	42.24	
Pasture	7.0%	44.8	
Woodlot	19.0%	121.6	
Other use	14.0%	89.6	(farmstead, wetlands, etc.)

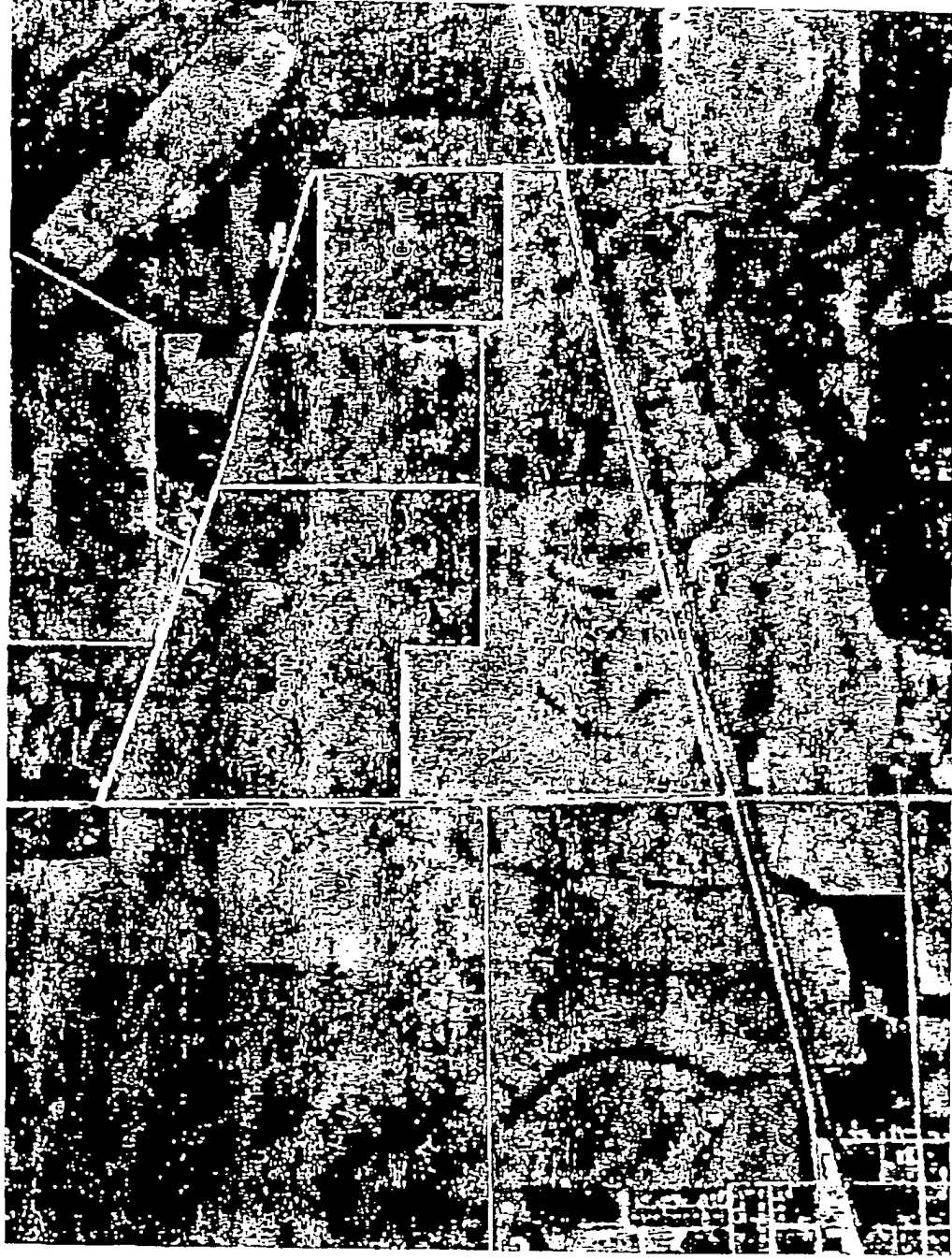
Major Land Use by Region 1997 USDA

- ➔ A dairy milking 900 cows produces 47,887 tons of manure
- ➔ 175 pounds of N applied per acre = 1.314 acres per cow
- ➔ @ 3,000 gallons/acre application rate, 1 acre = 16.47 pigs

USDA-NRCS Agricultural Waste Management Field Handbook, Tables 4.4, 4.5, and Figure 4-1

Design and Management of Anaerobic Lagoons in Iowa for Animal Manure Storage and Treatment

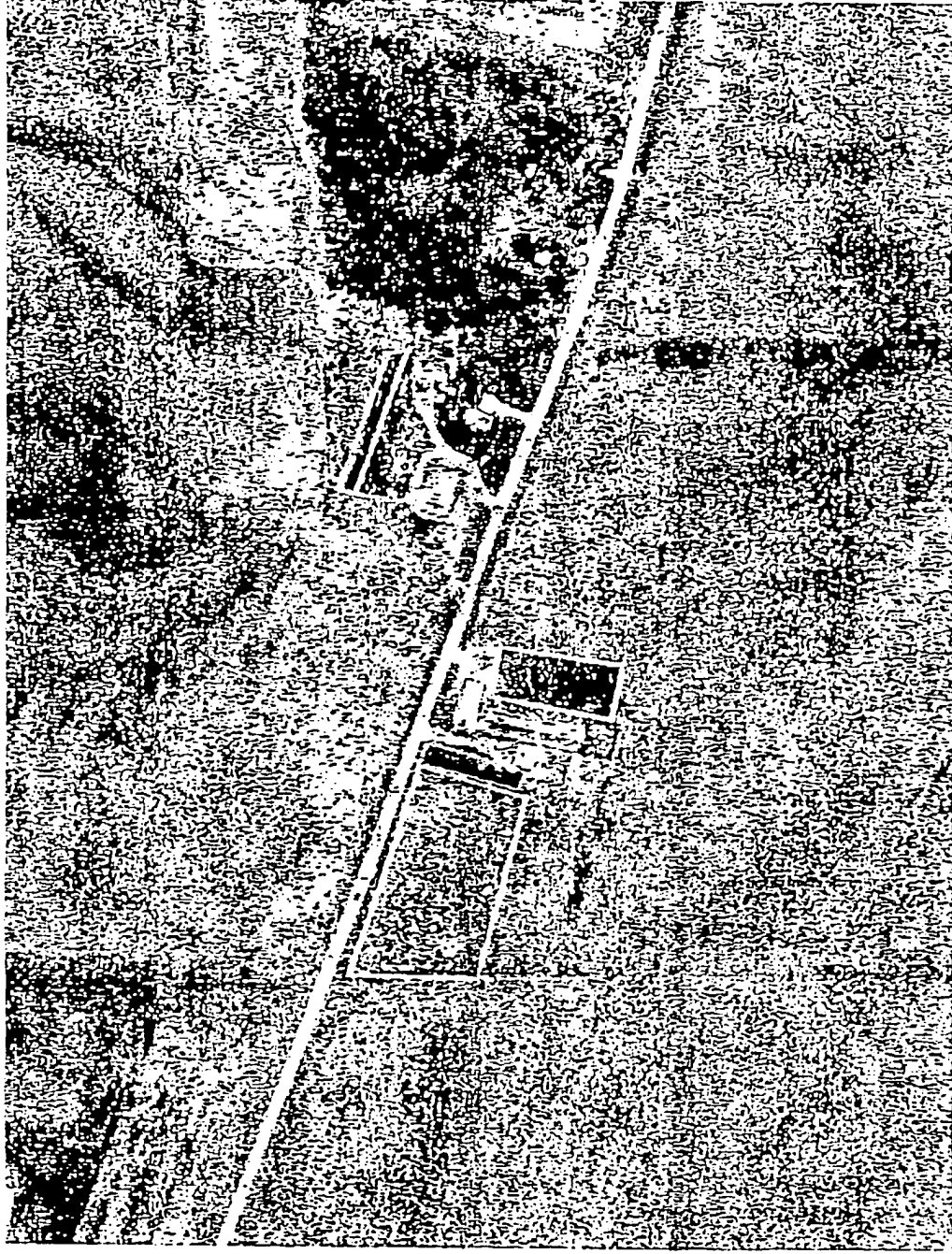
# Aerial Georeferenced Farm Data



LEGEND:

= CORN  
GREEN = SOYBEANS

# Aerial Georeferenced Farm Data



## LEGEND:

GREEN = WINDBREAKS	BLUE = DEEP PIT WASTE DISPOSAL
ANIMAL PRODUCTION	CROP & ANIMAL FACILITIES

# Cost Share and Technical Assistance: Possible Sources

[illegible]

- Other Federal Programs: AgSTAR, Ruminant Livestock Efficiency Program (RLEP), etc.
- State Programs (e.g.: Calif. dairy generator funding sb16x)
- Local/municipal programs (especially watershed related)

# Quality Assurance

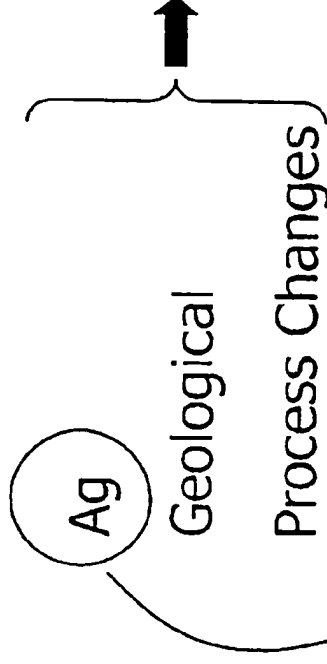


- Essential component of Emission Reduction Credit (ERC) “quality” equation
- AgCert’s system establishes the “Gold Standard”
  - Built upon ISO platform
  - Uses independent assessors/auditors
    - Strong underlying qualifications (CCA, Environmental Eng’s, etc.)
    - ANSI and/or ISO certified
    - Rigorously trained on AgCert/USDA protocols
    - Re-certified annually
  - Multiple independent audit steps
  - Data collection will enable GPS/time/date stamping
  - Accommodates (optional) Customer Requested audits
- *Most striking opportunity to differentiate Ag ERCs from other sources*

# Ag ERCs vs. Other ERCs



Different ERC Sources:



Kyoto "Industrial" Countries:

Canada, Germany, Denmark, New Zealand

Kyoto CDM Countries:

Brazil, Mexico, Eastern Europe

U.S.

**We need to enable U.S. Ag to sell into ALL markets!**

# Ag ERCs vs. Other ERCs



## AgCert International LLC Emission Reduction Credit Sources Comparison Matrix

Attributes/Sources	AgCert's EnviroCert		Geological Sequestration		Renewable Energy		Forestry	
	Avoidance	Sequestration	Enhanced Oil Recovery	Deep Ocean Injection	Direct Injection	Biomass	Hydro	Wind Turbines
Government Approval Protocol	✓	✓				✓		
Third Party Verification	✓	✓				✓	✓	✓
Large Available Supply	✓	✓	✓	✓	✓	✓	✓	✓
Renewable Supply	✓	✓	✓	✓	✓	✓	✓	✓
Measurable Science	✓	✓	✓	✓	✓	✓	✓	✓
Uniformity of Supply	✓	✓	✓	✓	✓	✓	✓	✓
Meets Additional Requirements	✓	✓	✓	✓	✓	✓	✓	✓
Permanence	✓	✓	??	??	??	✓	✓	✓
Environmental Co-Benefits	✓	✓	??	??	??	✓	✓	✓
Unintended Consequences			??	??	??			

### Definitions:

#### AgCert's EnviroCert Protocols:

- Avoidance**
  - Methane avoidance projects involve changing manure handling/confinement practices to avoid the (normal) production of methane. Practices change examples include changing from uncovered lagoons to covered storage technologies, and/or using anaerobic dig.
- Sequestration**
  - Sequestration projects involve capturing and storing CO<sub>2</sub> below the agricultural land preventing it from being released into the atmosphere for a specified period of time.
- Geological Sequestration:**
  - Enhanced oil recovery projects involve capturing CO<sub>2</sub> that would otherwise be vented to the atmosphere for injection into crude production fields to enhance oil recovery.
  - Direct injection projects involve the (re)injection and long-term underground storage of CO<sub>2</sub> in underground reservoirs.
  - Deep ocean injection projects involve injecting CO<sub>2</sub> into the deep ocean (approximately 10,000 feet) and allowing it to dissolve in the ocean water.
- Renewable Energy:**
  - Biomass projects involve switching from a more GHG intensive fuel to biomass. Biomass can include agricultural and forestry wastes or crops and grass grown for biomass.
  - Hydro projects involve switching from a more GHG intensive fuel to hydro.
  - Wind projects involve switching from a more GHG intensive fuel to wind.
- Forestry:**
  - Afforestation projects are the conversion of non-forest to forest on lands previously in a non-forest state.
  - Ag Forestry projects involve commercial reforestation efforts.

• See Co-Benefit Comparison



# Ag ERCs vs. Other ERCs



AgCert International LLC  
Emission Reduction Credit Sources  
Co-Benefit Comparison Matrix

Co-Benefit Sources	AgCert's EnviroCert Avoidance	AgCert's EnviroCert Sequestration	Enhanced Oil Recovery	Geological Sequestration	Direct Ocean Injection	Biomass	Renewable Energy	Wind Turbines	Forestry
Cleaner Air	✓	✓				✓	✓	✓	✓
Cleaner Water	✓	✓				✓	✓	✓	✓
Return to Agriculture	✓	✓				✓	✓	✓	✓
Reduce Use of Petro-Based Fertilizer	✓	✓				✓	✓	✓	✓
Increase Regulatory Compliance	✓	✓				✓	✓	✓	✓
Renewable Energy Potential	✓	✓				✓	✓	✓	✓
USDA Royalties	✓	✓				✓	✓	✓	✓
Successful Technology Transfer	✓	✓				✓	✓	✓	✓
Potential Decrease in Farm Subsidies	✓	✓				✓	✓	✓	✓
Dramatically Increased Adoption of Environmental Protection	✓	✓				✓	✓	✓	✓
Reduce Government Enforcement Costs	✓	✓				✓	✓	✓	✓
U.S. Leadership	✓	✓				✓	✓	✓	✓

## Definitions:

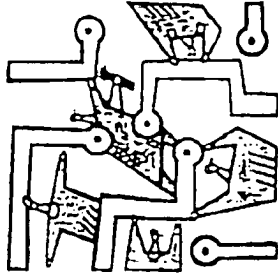
### AgCert's EnviroCert Protocols:

- Avoidance**
  - Activities avoidance projects involve changing current handling/containment practices to avoid the (normal) production of methane. Practice change examples include changing from uncovered lagoons to contained storage technologies; and/or using anaerobic digesters
  - Sequestration projects involve capturing and storing CO<sub>2</sub> below the agricultural and preventing it from being released into the atmosphere for a specified period of time.

### Geological Sequestration:

- Enhanced Oil Recovery**
  - Enhanced oil recovery projects involve capturing CO<sub>2</sub> that would otherwise be vented to the atmosphere for injection into crude production fields to enhance oil recovery.
  - Direct Injection projects involve the (re)injection and long-term underground storage of CO<sub>2</sub> in underground reservoirs.
  - Deep ocean injection projects involve injecting CO<sub>2</sub> into the deep ocean (approximately 10,000 feet) and allowing it to dissolve in the ocean water.
- Biomass**
  - Biomass projects involve switching from a more GHG intensive fuel to use of biomass fueled generation. Biomass can include agricultural and forestry wastes or crops and trees grown for biomass.
  - Hydro projects involve switching from a more GHG intensive fuel to hydro.
  - Wind projects involve switching from a more GHG intensive fuel to wind.
- Forestry**
  - Afforestation projects are the conversion of non-forest to forest on lands previously in a non-forest use.
  - Ag Forestry projects involve commercial reforestation efforts.

# The Market



Early GHG trades were a rodeo – most trades were more concerned with generating publicity than creating actual GHG benefit.

Today's trades are complex - based upon science, but with no standard of performance, varied protocols and a wide range of differing values for GHG.

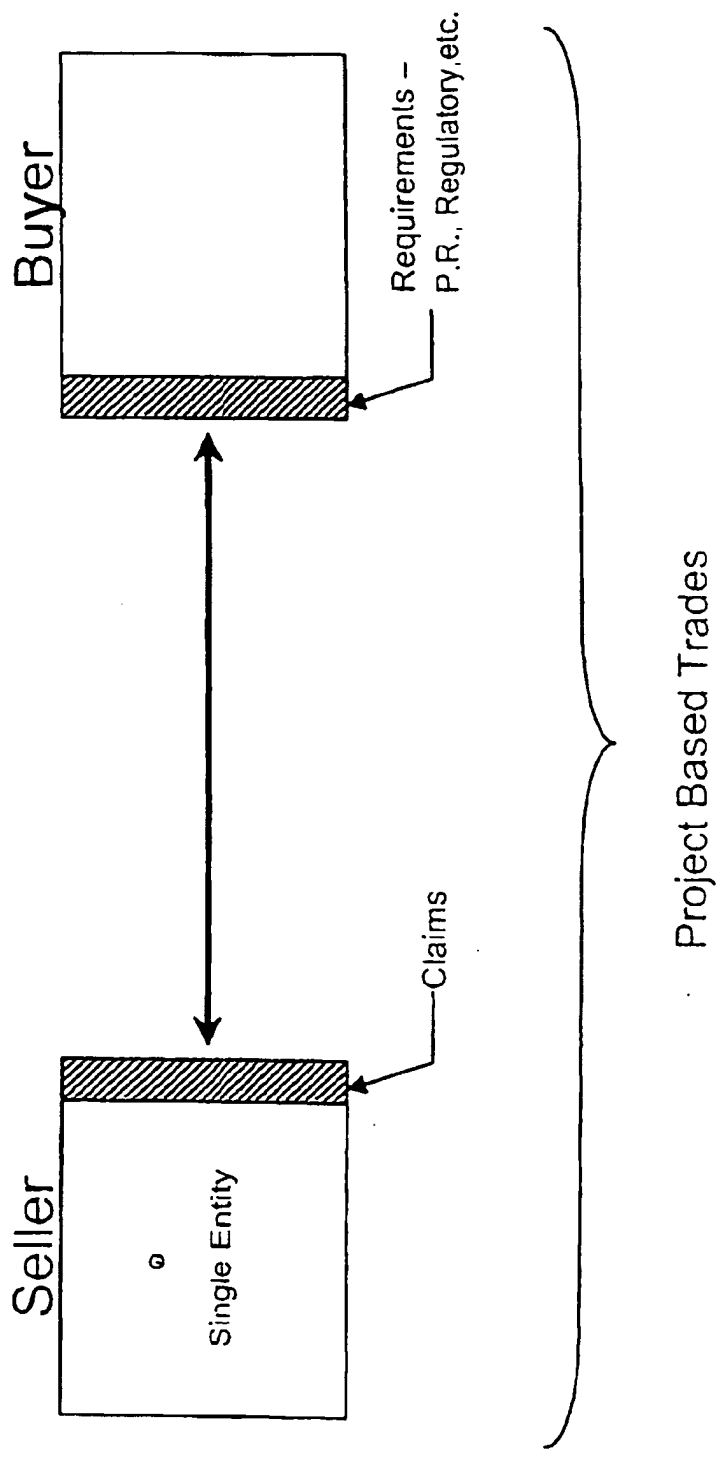
Tomorrow AgCert will provide government-derived standards of performance & protocols, which will add real value to the GHG market and will enable greater GHG benefits.

Before

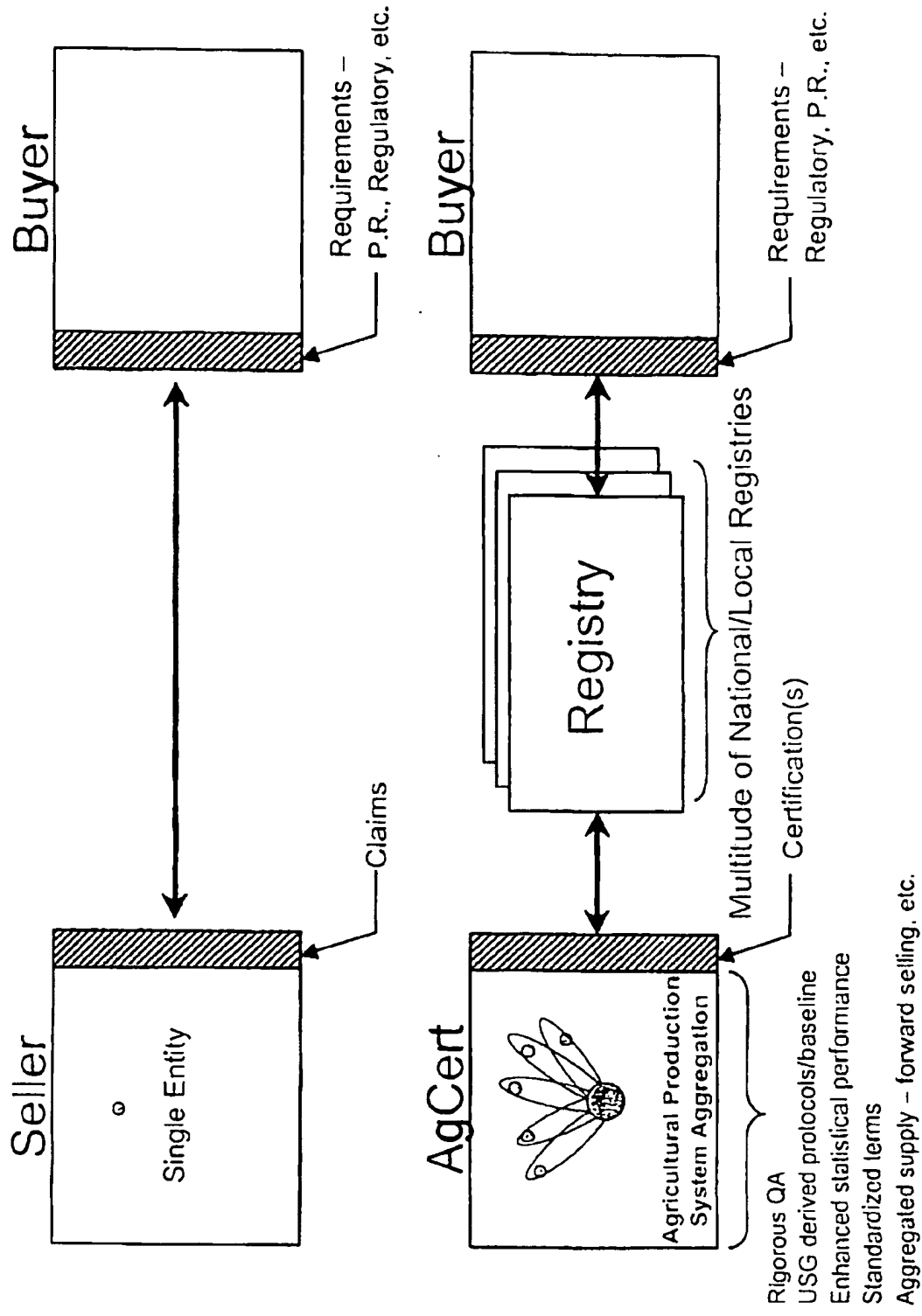
Now

The Future

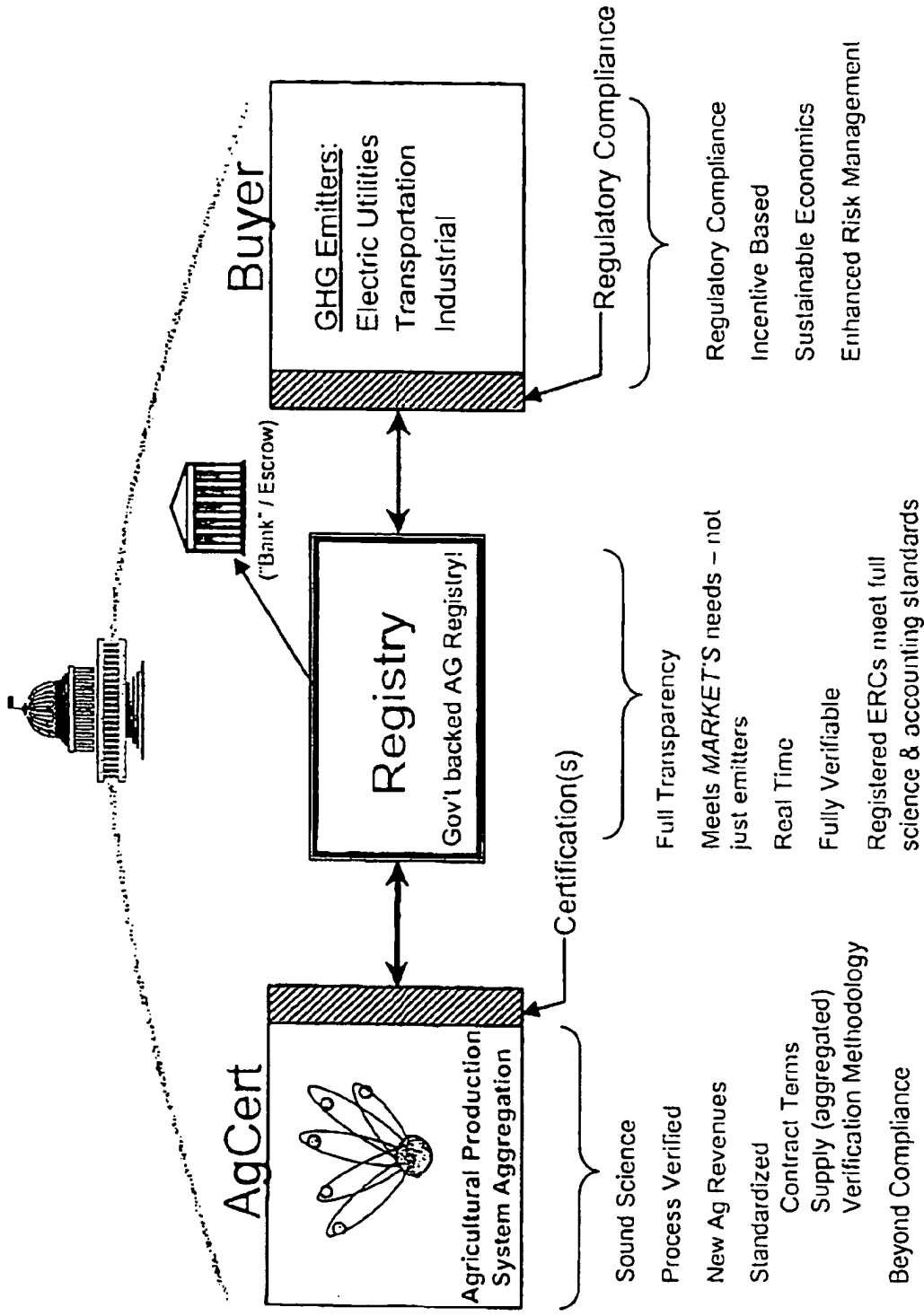
## The Market...In the Past



# The Market... Today



# The Market ... Tomorrow



\*\*\*20,000 Metric Tons CO<sub>2</sub>e\*\*\*

Created Pursuant to CRADA NO. 58-3K95-2-949

Serial NO. 1998-5002-DPMS-3626  
1998-5003-DPMS-4441  
1998-5004-DPMS-2151  
1998-5006-DPMS-3870  
1998-5007-DPMS-3010  
1998-5011-DPMS-2902  
\*\*\*\*\*

\*\*\*\*\* CERTIFICATE \*\*\*\*\*

**Twenty Thousand Metric Tons**  
Carbon Dioxide Equivalent Emission Reduction



For the benefit of Privet, LLC.

CO<sub>2</sub>e Source: Methane Avoidance

AgCert International LLC

Alan Tank  
CEO  
December 6, 2002

..... Transfer Restrictions on Reverse Side of Certificate .....

## How Do We Capture This Opportunity for Ag?

- NRCS Advocacy
- Prioritization of CS & TA
- USG Backed Ag Registry
- Science/economic based accounting system (registration of ERCs requires government approved protocols/methodologies)
- DISCUSSION

# QUALITY ASSURANCE

